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NATIONAL MENTAL HEALTH PROGRAMME OF INDIA: A REAPPRAISAL

S. Haque Nizamie¹, Nishant Goyal²

INTRODUCTION

Mental disorders have profound implications on the health and well-being not only of the individuals but also of their families and entire community. Mental illness accounts for significant burden of diseases in low-income and middle-income countries. The global burden of disease attributable to mental/neurological disorders and substance abuse is projected to rise from 11.5% in 1998 to 15.5% by the year 2020. India, constituting 1/6th of the world population, will have to share its burden of mental illness (WHO, 2008). People with mental disorders can be helped with simple and cheap treatments to recover or, at the very least, to vastly improve their quality of lives. Community and economic development can be used to restore and enhance mental health. Community development programmes that aim to reduce poverty, achieve economic independence and empowerment for women, reduce malnutrition, increase literacy and education and empower the underprivileged contribute to the prevention of mental and substance use disorders and promote mental health. This calls for the development of a comprehensive mental health policy.

Early in the 1960s and 1970s, it was being realized that long-term institutional care of all the needy mentally ill was neither possible nor desirable. The answer was deinstitutionalization and community care. There were a few steps taken, namely the launching of the National Mental Health Programme (NMHP), adoption of Mental Health Act (1987), Persons with Disability Act (1995) and integration of the mental health with primary health care at district level. The WHO expert committee reports, their multinational collaborative community care projects, and the Alma Ata Declaration of "Health for all by 2000" formed the platform for launching NMHP. NMHP aimed at ensuring the availability and accessibility of minimum mental health care (Jacob, 2010). The shortage of mental health professionals demanded that its principal strategy should be to integrate and deliver mental health care through the primary health care system. However, there is a huge gap between the existing mental health care resources and the need for psychiatric services in the community (Barua, 2009).

MENTAL HEALTH STATUS IN INDIA: FACT FILE

India is a pioneer country in terms of health service planning with a focus on primary health care. Improvement in the health status of the population has been one of the major thrust areas for social development. Publication of reports such as the Global Burden of Diseases (Murray & Lopez, 1996) and the World Health Report 2001 (WHO, 2001) has increased interest in mental health. India is facing an acute shortage of psychiatrists. Of the 3,300 trained psychiatrists in the country, 3,000 are in the four metros. However, India actually needs 32,000 psychiatrists. One third of the mental health beds are in one state (Maharashtra) and several states even do not have mental hospitals. During the past two decades, many mental hospitals have been reformed through the intervention of the voluntary organizations, media, National Human Rights Commission and Judiciary (courts) and yet a survey in 2002 showed that there is shortage in terms of drugs/treatment modalities in about a quarter and three quarters in terms of staff. The current emphasis is on general health psychiatry units that support voluntary admissions and encourage family members to stay with the patient. Some beds are allocated to treatment of drug abuse and child psychiatry. Very few mental health professionals are based in rural areas. Many mental health professionals have emigrated. As per sources, in 2003 itself, more than 82 psychiatrists sought short-term and long-term employment in the United Kingdom in response to the latter's international recruitment drive. There is no formal system of licensing clinical psychologists and psychiatric social workers and psychiatric nursing is almost non-existent in India. Following are the figures depicting mental health resources in India as described in World Mental Health Atlas, 2005 (WHO, 2005):

- Total psychiatric beds per 10 000 population 0.25
- Psychiatric beds in mental hospitals per 10 000 population 0.2
- Psychiatric beds in general hospitals per 10 000 population 0.05
- Psychiatric beds in other settings per 10 000 population 0.01

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Number of psychiatrists per 100,000 population 0.2
Number of psychiatric nurses per 100,000 population 0.05
Number of psychologists per 100,000 population 0.03
Number of social workers per 100,000 population 0.03

(WHO, 2005)

Barriers for Development of Mental Health Services

The greatest barrier to development of mental health services is the absence of mental health from the public health priority agenda. Another barrier is organization of services. Mental health resources are centralized in and near big cities and in large institutions. Such institutions frequently use a large proportion of scarce mental health resources, isolate people from vital family and community support systems, cost more than care in the community and are associated with undignified life conditions, violations of human rights and stigma. The third barrier to development of mental health services, which relates to organization of services is the complexity of integrating mental health care effectively with primary care services. Finally, a major barrier is likely to be the lack of effective public health leadership for mental health in most countries (Saraceno et al, 2007).

NMHP: HOW FAR WE HAVE ACHIEVED

The major recommendations of the NMHP, 1982 were: (a) mental health must form an integral part of the total health programme and as such should be included in all national policies and programmes in the field of health, education and social welfare, and (b) strengthening the mental health component in the curricula of various levels of health professionals. These recommendations were in response to the recognition that mental health professionals alone would be unable to meet the growing mental health needs of the population. The Bellary project attempted to scale the scheme to the district level and formed the basis of the District Mental Health Programme (DMHP). This demonstration of scalability resulted in the rolling out of the programme across many districts in the country (Agrawal et al, 2004). The Supreme Court was catalyst for the process, with its interventions on the state of government mental institutions after the Erwadi fire. It focused the government’s efforts on increasing the priority and funding for mental health (Jacob, 2010). The national programme was restructured in 2003, with clearly specified budgetary allocations. It was only in the Ninth Five Year Plan that a substantial amount of 28 Crore was made available which increased substantially in the Tenth Five Year Plan. The 10th Plan allocated 139 Crore for NMHP. Major thrust areas for 10th Five Year Plan as emphasized in the National Mental Health Policy, 2001 included (Agrawal et al, 2004):

- District mental health programme in an enlarged and more effective form covering the entire country.
- Streamlining/modernization of mental hospitals in order to modify their present custodial role.
- Upgrading department of psychiatry in medical colleges and enhancing the content of psychiatry in the medical curriculum in the undergraduate as well as in the postgraduate level.
- Strengthening the Central and State Mental Health Authorities with a permanent secretariat. Appointment of medical officers at state headquarters in order to make their monitoring role more effective.
- Research and training in the field of community mental health, substance abuse and child/adolescent psychiatric clinics.

Fallout of NMHP, 1982

The National Mental Health Programme which started with high hopes failed to gain the desired momentum and the eventual progress was tardy. Contributory factor identified included dimensional nature of the programme which focused exclusively on and had become virtually synonymous with the DMHP. This had led to a relative neglect of the other components of the mental healthcare delivery system. Stagnation in vital sectors like departments of psychiatry in medical colleges and mental hospitals had not only robbed the DMHP of vital managerial support, but had also led to an attitude of indifference and apathy among mental health professionals particularly those working in such institutions. The primary health care delivery system in the public sector is insufficient even for managing physical health problems. The political and administrative leadership, financial commitments, the increased human resource, supervision and monitoring, which ensured the success of the pilot projects are missing in
the national and expanded district programmes. The movement towards specialization has also eroded the standing of general and family practice. The community psychiatry movement was led in the 1970s and 1980s by many national institutes and centers of excellence. The very ideas of decentralization and empowerment gradually lost ground and are all but abandoned by these centers, resulting in a leadership vacuum. The technology to translate psychiatric research evidence into primary care practice does not exist in low income countries (Srinivasa Murthy, 2004). While the programme has ensured wider availability of essential psychotropic medication, the failure to integrate mental health care delivery into primary care has resulted in limited impact on patient services (Jacob, 2010).

**Restrategised NMHP**

The proposed budget for the programme in the 11th Plan is 1,000 Crore with more than 400 Crore being allotted to be utilized only for manpower development at primary, intermediate and tertiary levels. Programmes have been conducted for increasing awareness and reducing stigma. The revised NMHP is also giving tremendous importance to suicide prevention. According to the plan, the ministry will give basic mental health training to physicians at the primary health centers in the villages and block levels. The district mental health programme (DMHP) has also been started in 325 new districts. Over the last two decades, the NMHP has managed to overcome certain barriers for effective implementation including poor funding, limited undergraduate training in psychiatry, inadequacy of mental health human resources, limited number of models and their evaluation, uneven distribution of resources across states, non-implementation of the MHA,1987 and privatization of healthcare in the 1990s (Srinivasa Murthy, 2007). The goals of NMHP have drifted towards family and community care, better organization of mental health services in the primary care and supporting through mental health initiatives rebuilding of social cohesion, community development, promotion of mental health and the rights of the persons with mental disorders.

**BEYOND NMHP (1982): PROPOSED MODEL**

The proposed model for an integrated mental health model involves certain principles laid down in the WHO developed Mental Health Gap Action Programme (WHO, 2008). This should include political commitment, assessment of needs and resources, development of a policy and legislative infrastructure, delivery of the programme efficiently, human resource development, mobilization of financial resources and strategy for monitoring and evaluation. Government of India has proposed to make an India-Australia Advisory Committee (IAAC) in order to restrategise feasibility and application of a new mental health programme consisting of representatives from Director General of Health Services (DGHS), National Institute of Health and Family Welfare (NIHFW), Central Government institutes (including NIMHANS, Bengaluru; AIIMS, New Delhi, CIP, Ranchi and others), Asia Australia Mental Health and its partners for the development of community mental health models. The IAAC will focus on capacity building in 5 parallel streams: facilitating community partnerships; mental health policy; developing best-practice models; workforce training and monitoring and evaluation. Certain issues require attention and concern of the policy makers and service providers, which are essential in achieving the goals of the NMHP with maximum efficiency:

- Collaboration with various stakeholders as there is a greater need for the stakeholders (families, community groups, human rights activists, etc.) to join hands in view of the multi-sectoral nature of mental health.

- To develop and modify the current models of service organization to integrate services into general health service provision at the primary health care level (apart from DMHP, integrated approach with other health programmes eg., collaborating child psychiatry services with Integrated Community Developmental Scheme (ICDS), Reproductive and Child Health (RCH) and neuropsychiatric services with epilepsy prevention programmes, etc. for better penetration and efficiency with limited resources and manpower).

- To develop modules for early detection and intervention. One example includes the life skills education programmes for school children. Similarly, psychosocial care of survivors of disasters should be part of all relief, rehabilitation, reconstruction and reconciliation programmes, following man-made and natural disasters.
To treat and rehabilitate patients with mental health problems in the family setting. This would include development of modules for rehabilitation services based on Assertive Community Treatment approach (ACT), which would include development of Psychiatric Social Work (PSW) services from very basics and to integrate community mental health services with PSW service provision.

Information, education and communication (IEC) on mental health, especially the prevention of stress-related disorders through the promotion of healthy lifestyles and operational research studies on the effective implementation of preventive, promotional and curative programmes using the existing health infrastructure require due attention.

To educate the community to reduce the stigma attached to mental illness. With increasing numbers of suicides reported among young people, crisis management centers and telephone help-lines should be introduced in major cities and health establishments taking help of local agencies and NGOs.

Development of infrastructure for newer subspecialties emerging in mental health including workplace mental health, prison mental health and to provide fresh impetus into neuropsychiatry, geriatric psychiatry and child and adolescent mental health.

Providing standardized administrative and assessment protocols for implementation of the programme at various levels including a system of support and supervision, along with evaluation. This should be achieved by creating teams of professionals at the central, regional and the state level to continuously develop the mode of interventions, evaluate the quality of care and make mid-course corrections.

More than 70 per cent of health care contacts occur with the private sector. In an environment where the private sector is largely unregulated, there is a need to engage these stakeholders within the context of a national mental health programme. Greater emphasis on research in mental health including clinical, psychosocial and biological research and development of centers dedicated for development of neuroscience research at the highest possible levels.

A thorough remobilization of important areas, which are still largely neglected including substance use disorder and to look for development of policies for prevention of substance use disorders including provision of rehabilitative services.

A look into more integrative approaches in using complementary and alternative therapies including homeopathy etc., in the current model of care and to reiterate the role of traditional faith healers in the system is important.

Non-Government Organizations (NGOs) that operate locally, nationally and internationally can contribute in many ways to the implementation of this programme, e.g., three leading international organizations that work in the area of epilepsy (International League Against Epilepsy [ILAE], International Bureau for Epilepsy [IBE], and WHO) joined forces in 1997 to create the Global Campaign Against Epilepsy. The campaign aims to improve provision of information about epilepsy and its consequences and to assist governments and those concerned with epilepsy to reduce its burden (WHO, 2008). In India, NGOs are involved actively in running DMHP in model districts, developing epilepsy and substance use treatment programmes and developing niche community based services for rehabilitation of mentally ill patients. Regional reports have been developed to define the current challenges and offer appropriate recommendations.

CONCLUSION

The story of the mental health programme in India is one of ambitious plans, scarce resources and shattered dreams. There is a need for greater advocacy of mental health among policy-making circles, and increased public awareness for
the utilization of the mental health services. This calls for a greater commitment, vision and a vibrant spirit of innovation on the part of mental health care providers. The way forward is to build innovative partnerships and alliances. Commitment is needed from all partners to respond to this urgent public health need. The time to act is now!

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PSYCHOSOCIAL INTERVENTIONS FOR ALCOHOL USE DISORDERS

Tilottama Mukherjee¹, Amrita Sen², Nijo Puliyannur³

ABSTRACT

Alcohol-related disabilities have increasingly been recognized as a major source of concern both in the developed as well as in developing nations. In India, this high rate of problems would indicate the need to develop intervention strategies, and given the paucity of trained personnel, these approaches must require a minimum of time and resources. Psychosocial treatment for substance use disorders is an "umbrella" term that brings under its folds a diverse array of non-pharmacological interventions for effective and global management of drug abuse. Psychosocial treatment, group therapy, and individual counseling play an important role in preventing relapse. The various psychosocial interventions available can be broadly classified into Brief Intervention, Motivational Interviewing (MI), Motivational Enhancement Therapy (MET), Coping and Social Skills Training (CSST), Cognitive-Behavioural Therapy, Behavioural Therapies, Self-Help Groups and 12-Step-Oriented treatments, Multi-dimensional Family Therapy, Behavioural Marital Therapy, Therapeutic Communities (TCS) and Relapse Prevention (RP). However, it needs to be kept in mind that pharmacological and psychosocial approaches for the management of alcohol abuse tend to go hand in hand, they are complementary to each other, and the best results have generally been obtained by a combined approach.

Key Words: Alcohol use disorders, Psychosocial interventions

INTRODUCTION

According to the World Health Report, 2002, 8.9% of global disease burden expressed in Disability Adjusted Life Years Lost (DALYS) is attributed to psychoactive substance use. Tobacco and alcohol are responsible for a major part (8.1%) of the disease burden, with alcohol being the top risk factor for poor health in developing countries. Tobacco, alcohol and illicit drugs are responsible for 12.4% of all deaths worldwide. Negative social consequences of alcohol and drug use, like crimes, violence or traffic accidents, make the total burden on the society even higher.

Alcohol-related disabilities have increasingly been recognized as a major source of concern both in the developed as well as developing nations (WHO, 1980). Between 3%-5% of adult males worldwide have an alcohol dependence syndrome and another 10%-15% appear to be problem drinkers. A nationwide survey of a representative male population between the age of 12 and 60 years in India reported alcohol use in the last 30 days to be 28% and Alcohol Dependence to be 4% of the population (Srivastava et al, 2003). In India, this high rate of problems would indicate the need to develop intervention strategies, and given the paucity of trained manpower, these approaches must require a minimum of time and resources (Pal et al, 2007).

Psychosocial treatment for substance use disorders is an "umbrella" term that brings under its folds a diverse array of non-pharmacological interventions for effective and global management of drug abuse. Medication treatment can only 'level the playing field'. Psychosocial treatment, group therapy, and individual counseling play a major role in preventing relapse (Halikas,1993). The common thread underlying psychosocial interventions is that they do not involve prescribing medicines in any form. This does not mean, however, that psychosocial treatment has any conflict with pharmacological treatment. Quite the contrary, it has been documented that each modality of treatment helps the other. Specifically, psychosocial interventions can enhance pharmacological treatment efficacy by increasing medication compliance, retention in treatment, and acquisition of skills that reinforce the effects of medications. Psychosocial treatment serves important long-term goal of maintaining abstinence (Malhotra et al,2005). Psychosocial treatment helps to overcome or approximate this difficult challenge. Staying drug free for a long period of time may be practically impossible for a substance abuser living a particular life style,
often in a drug-using "sub-culture" where the primary preoccupations and themes of living revolve around drugs. Thus, long-term abstinence also necessarily implies, ultimately, a change of life style and adoption of a more productive life style and more improved quality of life.

Variations in personal characteristics and socio-cultural environment create differences in the degree of vulnerability to substance experimentation, continuous use and dependence, which means that prevention also needs to vary both in content and intensity.

Risk factors that can be found in different domains:

a) At the individual level (e.g., some mental disorders or a sensation-seeking personality).
b) In the family (e.g., living with a depressed or substance dependent parent).
c) At school (e.g., poor academic performance).
d) Among peers (e.g., friends that use substances).
e) In the community (e.g., easy availability of substances, social tolerance).

Protective factors that can also be found in different domains:

a) At the individual level (e.g., high self-esteem or a risk avoidance personality trait).
b) In the family (e.g., living with parents able to meet their children's affective needs).
c) At school (e.g., school adherence).
d) Among peers (e.g., close peers with a low tolerance of drug use).
e) In the community (e.g., strong social networks) (National Institute on Drug Abuse, 1997).

**TREATMENT PLANNING:** In planning treatment in alcohol problems, attention should be focused not only on achieving, but also on maintaining change. The primary goals of treatment are-Awareness building, consciousness rising and developing a state of dissonance between engagement in addictive behaviour and one's personal belief, attitudes, values and feelings (Miller, 1985).

The essential elements in the counseling of early stages may be memorized by the mnemonic ABCDEFGH: A-Advice, B-Barrier removal, C-Choice, D-Decreasing attractiveness of substance abuse, E-External contingencies, F-Feedback, G-Goal setting, H-Helping attitude (Cheung, 1997).

Modalities of delivering psychosocial therapies can be either therapist mediated or non-therapist mediated. Therapist mediated modalities can be of two types: Brief Interventions (BIs) & Extended Interventions (EIs). Non-therapist mediated modalities are essentially Self-Help Groups (SHGs), the commonest and popular one being-Alcoholic Anonymous (AA).

**PSYCHOSOCIAL INTERVENTION**

The various psychosocial interventions available can be broadly classified into Brief Intervention, Motivational Interviewing (MI), Motivational Enhancement Therapy (MET), Coping and Social Skills Training (CSST), Cognitive-Behavioural Therapy, Behavioural Therapies, Self-Help Group and 12-Step-Oriented treatments, Multi-dimensional Family Therapy, Behavioural Marital Therapy, Therapeutic Communities (TCS) and Relapse Prevention (RP).

**I. BRIEF INTERVENTION:** Brief (single-session) motivational intervention uses straightforward advice and information on the negative consequences of alcohol abuse to motivate patients to reduce or stop drinking. The goals of brief interventions include problem recognition, commitment to change, reduced alcohol consumption and brief skills training (Heather & Stockwell, 2004). In a review of 32 controlled studies using brief interventions, Bien et al (1993) reported that brief interventions were more effective than no treatment and often as effective as more extensive treatment.

**Components of effective brief intervention:**

The steps of an effective brief intervention are deceptively simple (Holder et al, 1991). These include:

1. Feedback to patients about effects of substance use: The clinician should state the specific alcohol-related behaviours that are worrisome. This clear statement about explicit behaviours is less confrontational and more useful to the patient than vague statements (Miller, 1985).

2. Recommendations for change in behaviour: It should be in the form of clear, simple advice.
3. Lists of options to achieve behavioural change: Providing the patient with options to promote behavioural change is useful at any stage of change. Any change in behaviour requires reinforcement.

4. Discussion of patients' reactions to provider's feedback and recommendations.

5. Follow up to monitor and reinforce behavioural change: It can be done with follow-up visits or telephone calls which can support that change. Follow-up visits provide the opportunity for specific counseling around relapse prevention.

Optimal brief interventions consist not only of saying the right words, but also creating a safe and supportive environment for the patients. Miller and Rollnick (1991) articulate this in their formulation for brief intervention, FRAMES (Miller & Sanchez, 1994). This approach acknowledges that the patient, and not the physician, is responsible for changing behaviour.

F- Provide feedback on drinking behaviour.
R- Reinforce patients responsibility for changing behaviour
A- State your advice about changing behaviour
M- Discuss a menu of options to change behaviour
E- Support patient's self-efficacy

Process of change: In the Transtheoretical Model, motivation is construed as a malleable process that occurs in predictable stages. Stages of change to describe the process a person goes through when making a behavioural change (DiClemente & Prochaska, 1998):

1. Pre-contemplation (not yet considering change)
2. Contemplation (considering change but not taking action)
3. Preparation or determination (planning to change)
4. Action (making changes in one's behaviour)
5. Maintenance (changing one's lifestyle to maintain new behaviour)
6. Termination or relapse

### Options for change according to stages of change (Barnes & Samet, 1997):

<table>
<thead>
<tr>
<th>Stage of Change</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>Lists pros and cons of drinking and not drinking</td>
</tr>
<tr>
<td></td>
<td>Keeps diary of alcohol</td>
</tr>
<tr>
<td></td>
<td>Agrees to think about drinking behaviour</td>
</tr>
<tr>
<td>Contemplation</td>
<td>Options listed in pre-contemplation</td>
</tr>
<tr>
<td></td>
<td>Considers trial of abstinence for 2-4 weeks</td>
</tr>
<tr>
<td></td>
<td>Reads pamphlets</td>
</tr>
<tr>
<td></td>
<td>Attends educational program on effects of alcohol</td>
</tr>
<tr>
<td>Determination</td>
<td>Discusses available treatment options</td>
</tr>
<tr>
<td></td>
<td>Reviews family support and social support for change</td>
</tr>
<tr>
<td></td>
<td>Sets goal for level of use or abstinence</td>
</tr>
<tr>
<td></td>
<td>Plans for action</td>
</tr>
<tr>
<td>Action</td>
<td>Implements behavioural change</td>
</tr>
<tr>
<td>Relapse</td>
<td>Understands relapse as a learning experience</td>
</tr>
<tr>
<td></td>
<td>Reassesses goals</td>
</tr>
<tr>
<td></td>
<td>Returns to action plan</td>
</tr>
<tr>
<td></td>
<td>Considers more intensive treatment</td>
</tr>
</tbody>
</table>

II. MOTIVATIONAL INTERVIEWING (MI): Motivational interviewing was developed by the American psychologist William Miller in 1982. For less motivated patients, based on motivational psychology and the stages-of-change model, MI focuses on enhancing and facilitating the patient’s internal motivation to change (Miller & Rollnick, 1991). They describe motivational interviewing as being ‘directive’ and ‘client centered’. In motivational interviewing, the patient serves as a colleague in this process. The motivational interviewing is the product of a systematic attempt to combine the FRAMES motivational factors (Miller, 1983, 1985; Miller et al, 1988; Miller & Rollnick, 1991) into one brief intervention.

The MI therapist uses various techniques such as:

- Reflective listening
- Exploring the pros and cons of change
- Supporting the patient's self-efficacy
- Interview and assessment data to provide patients with personalized feedback regarding the problem behaviour
- Eliciting self-motivational statements from the patient
III. MOTIVATIONAL ENHANCEMENT THERAPY (MET): 
MET is a longer-term follow-up to an initial brief intervention strategy. MET consists of four treatment sessions over 12 weeks preceded by an extensive assessment. It is an empathic, directive counseling process to help patients articulate their motivation to change behaviour. The techniques of MET are built on the concepts of patients’ autonomy, ambivalence, and intrinsic motivation. It combines techniques from cognitive, client-centered, systems and social-psychological persuasion approaches. MET is characterized by an empathic approach in which the therapist helps to motivate the patient by asking about the pros and cons of specific behaviours, exploring the patient’s goals and associated ambivalence about reaching those goals and listening reflectively to the patient's responses.

Basic Principles: The principle of motivational interview has been identified as congruent with the empowerment focus of social work (Hohman, 1998). Miller and Rollnick (1991) identified five basic motivational principles.

A mnemonic (DARES) was developed:

D - Develop discrepancy: The object of this process is to elicit from the client how their behaviour differs from their preferred lifestyle, aim and objectives.

A - Avoid arguments: This does not, however, mean that resistance is ignored. Resistance should be looked for and, once identified, attempts made to reduce it.

R - Roll with resistance: Resistance may take a variety of forms- arguments, denial, excuses, blaming, interrupting and ignoring. Miller and Rollnick (1991) refer to this as the ‘confrontation-denial trap’.

E - Express Empathy: One specific way of doing this is by reflection, feeding back what the client says. Miller (1983) asserts that reflection should be a passive process but should be selective. It is a style of therapist-client interaction most identified with the work of Carl Rogers (1967).

S - Support self-efficacy: The client’s perceived importance of change and their confidence that they can change are the key aspects.

IV. COPING AND SOCIAL SKILLS TRAINING (CSST): Within most CSST approaches, a set of basic methods target the assumed lack of adequate coping skills that addicted individuals have for navigating through their day-to-day lives. This subsumes deficits in affect regulation and coping with social interactions. Four main themes are covered in CSST:

1. Interpersonal skills for enhancing relationships: These include strategies to increase positive social interaction and self-confidence. At the same time, they aim at decreasing negative social interactions and avoidance of people, whether they are family, friends, casual acquaintances or strangers.


3. Coping skills for managing daily life events, stressful events and high-risk situations related to substance use.

4. Coping with substance-use cues.

Before the treatment starts the assessment focuses on:
1. Coping skill assessment.
2. Cue reactivity assessment.
3. Drinking triggers interview.

Treatment sessions focus on:

a. Communication-skills and social-skills training: 
Communication-skills training is designed to teach interpersonal and social skills. The various topics that address the majority of specific high-risk situations of types of communication skills are: Drink refusal skills, giving positive feedback, giving criticism, receiving criticism, receiving criticism about drinking or drug use, listening skills, conversational skills, developing sober supports, conflict-resolution skills and nonverbal communication expressing feelings, introduction to assertiveness, refusing requests and receiving criticism in general (Monti & O’Leary, 1999). In the substance abuse program developed by Azrin and colleagues (Azrin et al, 1996; Azrin et al, 1994a,b), social skills training is implemented during the initial session when communication guidance are reviewed.
Some investigators consider cognitive restructuring a social skill training component, (e.g., Interpersonal Cognitive Problem-solving, ICPS) (Platt & Husband, 1993). According to Platt and Husband (1993), cognitive processing is crucial to the identification, appraisal and resolution of interpersonal problems. Role-plays have been the primary vehicle for training social skills in the clinical setting.

b. Cue-exposure with urge-specific coping skills treatment (CET): The aim of CET is to identify high risk situations leading to increased urge to drink, to expose patients to this situation until their urge to drink diminishes and to teach cognitive-behavioural coping skills to manage urges to drink in high risk situations. CET is an empirically supported therapy that often involves the use of social skills training (Monti et al, 1993; Azrin et al, 1994a,b; Blakely & Baker, 1980; Azrin et al, 1996).

Eight major urge-specific coping skills are used in CET:

- Passive delay and delay as a cognitive strategy- This involves waiting out an urge without using any strategy so that patients can see that urges have a natural evolution of peaking and then decreasing with time and that urges are time limited.
- Negative consequence of drinking- Patients are instructed to think of all of the bad things that could happen if they drank in a situation.
- Positive consequences of sobriety- To list all of the good things that will happen if they do not drink and stay sober instead.
- Urge reduction imagery- To transform the urge into a physical object in their mind that they can destroy.
- Alternative food or drink- Imagine eating or drinking something that they enjoy and find satisfying other than alcohol.
- Alternative behaviours- Imagine engaging in some activity other than drinking.
- Cognitive mastery statement- Patients repeat mastery statement as a means of reducing urges like ‘I can do it’.
- Cognitive distraction- Imagine a pleasant scene and to imagine being in that scene while in a high risk situation (Monti & O’Leary, 1999).

V. COGNITIVE-BEHAVIOURAL THERAPY: From the perspective of cognitive behaviour theory, alcohol dependence is viewed as learned behaviours that are acquired through experience. If alcohol provides certain desired results (e.g., good feelings, reduced tension, etc.) on repeated occasions, it may become the preferred way of achieving those results, particularly in the absence of other ways of meeting those desired ends. From this perspective, the primary tasks of treatment are to (1) identify the specific needs that alcohol and drugs are being used to meet and (2) develop skills that provide alternative ways of meeting those needs.

“Cognitive-behavioural” approaches, on the other hand, include cognitions, thoughts and emotions among the factors that are considered to precipitate or maintain behaviour. The latter approaches often utilize behavioural methods (e.g., repeated practice, reinforcement) to modify cognitive and emotional processes.

The cognitive-behavioural model incorporates the two major types of learning that have been identified in behaviour laboratories: Learning by Association and Learning by Consequences.

A. In learning by association (also called ‘Pavlovian’ or ‘classical conditioning), stimuli that are originally neutral can become triggers for alcohol use or for cravings, as a result of repeated associations between those stimuli and alcohol use. Triggers may be external to the individual, such as objects in one’s environment, settings and locations or certain people (e.g., the people one uses with regularly) or they may be internal events like thoughts, emotions or physiological changes. Associations between these various objects/occurrences and alcohol use can develop if they repeatedly occur in close temporal proximity to one another. As these associations are gradually strengthened during the course of repeated occurrences, the alcohol user becomes subject to cravings that can be stimulated by a growing array of stimuli that were previously neutral but have now become potential triggers.
In the learning by consequences model (also called ‘operant’ conditioning), drinking behaviours are strengthened by the consequences that follow their use.

In the treatment for alcohol dependence, the goal of cognitive behavioural therapy is to teach the person to recognize situations in which they are most likely to drink or use drugs, avoid these circumstances if possible and cope with other problems and behaviours which may lead to their substance abuse.

In its use to treat alcohol and drug-dependence individuals, cognitive behaviour therapy has two main components: functional analysis and skills training.

Functional Analysis: Working together, the therapist and the patient try to identify the thoughts, feelings and circumstances of the patient before and after they drank or used drugs. This helps the patient determine the risks that are likely to lead to a relapse. Functional analysis can also give the person insight into why he drinks or uses drugs in the first place and identify situations in which the person has coping difficulties.

Skills Training: If someone is at the point where he needs professional treatment for his alcohol or drug dependence, chances are that he is using alcohol or drugs as the main means of coping with his problems. The goal of cognitive behaviour therapy is to get the person to learn or relearn better coping skills.

The therapist tries to help the individual unlearn old habits and learn to develop healthier skills and habits. The main goal of cognitive behaviour therapy is to educate the alcohol or drug-dependent person to change the way he thinks about his substance abuse and to learn new ways to cope with the situations and circumstances that led to his drinking or drugging episodes in the past.

Substance specific beliefs are frequently accompanied by a wider set of beliefs that may also increase vulnerability. These include a negative view of oneself, one's circumstances, and environment, and may contribute to low self-esteem, depression and anxiety.

Beliefs as ‘facts’: The primary goal is to modify maladaptive thoughts that contribute to inappropriate behaviour or emotional states. This involves the therapist showing warmth towards the client, being able to understand the difficulties the client is facing from his perspective and reflecting this back to him (empathy) and being honest in the relationship (Rogers, 1961).

The education phase: One way of making clients aware of the relationship between thoughts and feelings is to ask them to think about the feelings and thoughts they have had in the recent past (automatic thoughts). The second way that the client can learn the association between thoughts, feelings and behaviour is through the use of ‘homework’ assignments.

Beliefs as hypotheses: Errors in thinking can be identified by the Socratic Method (guided discovery) (Beck, 1976) and homework assignments. The most commonly used strategies are monitoring and challenging distorted thinking, and behavioural assignments that challenge distorted thinking.

Keeping a cognitive diary: Thoughts and thought challengers between sessions can be monitored by the use of a diary in which the client records any thoughts and challenges.

Behavioural challenge: A second strategy is to set up homework tasks that directly test the cognitive beliefs that clients may hold.

Other Strategies

Activity monitoring and scheduling: A frequently employed strategy involves planning things that interfere with substance misuse.

Behavioural rehearsal and role play: The therapy session permits skill deficits to be identified and rehearsed prior to their use in the ‘real world’, often through the use of role-play. The emphasis is on ensuring success in the acquisition of skills to improve self-confidence and their continued use (Bandura, 1986).
Coping with craving

Distraction techniques: These involve clients changing the focus of their attention from craving to some other aspects of their environment. The attention can be anything that results in some form of attentional change (Blagden & Craske, 1996).

Flashcards: It can be useful when clients are in high stress situation.

Imagery techniques: One simply involves distraction, in the focus of the distraction being internally generated images rather than external event. This can be enhanced by preceding images with a technique known as thought stopping (Burke et al, 1985).

Relaxation skills: As many individuals use substances to help them cope with stress, it can be useful to teach some stress management. The relaxation process most commonly used is Jacobson’s deep muscle relaxation technique (Stetter, 1998).

Rehearse, cope and reflect: Meichenbaum (1985) suggested that when an individual is trying to change his behaviour, the opportunities should be taken to rehearse new coping strategies before they are implemented (Petersen & Bride, 2002).

VI. BEHAVIOURAL THERAPIES: Behaviour therapies include Behaviour Contracting, Relaxation Training, Cue Exposure, Community Reinforcing Approach, Aversion Therapy and Contingency Management.

Behaviour Contracting: Behaviour contracting approaches are drawn from operant conditioning principles (Bigelow, 2001) and are used to establish a contingent relation between specific treatment goals (e.g. attending AA meetings) and desired reinforcer. Written behavioural contracts are a way of actively engaging the client in treatment. Drinking goals are made explicit and specific behaviours to achieve these goals are outlined. Behavioural contracts are also useful for providing alternative behaviours to drinking. When evaluated either as an individual treatment approach or as part of marital therapy, behaviour contracting consistently yielded positive results (Miller et al, 1995).

Relaxation Training: To the degree that stress causes unpleasant physical sensations and associated dysphoric moods, it is a high-risk situation for excessive alcohol use. An important coping skill for clients to learn is how to use the physical and emotional signs of stress as cues to “stop, look and listen” and to try something to cope besides heavy drinking. Relaxation training is a fundamental coping skill in the repertoire of a person trying to avoid excessive drinking. Many individuals believe in the tension-reducing properties of alcohol, whether or not they are true, and, without an alternative means to relax. Excessive drinking may be a person’s only means of coping with painful sensations and unpleasant emotions. Relaxation training fosters general stress-reduction and can be taught to clients using various techniques that either reduce muscle tension, develop deep breathing skills or focus on the use of pleasant imagery (Monti et al, 1989).

Cue exposure and relaxation training: Cue exposure treatment involves exposing a patient to cues that induce craving while preventing actual substance and, therefore, the experience of substance related reinforcement. It can be paired with relaxation techniques and drug-refusal training to facilitate the extension of classically conditioned craving.

Community Reinforcing Approach (CRA): The community Reinforcement Approach (CRA) attempts to increase clients’ access to positive activities and makes involvement in these activities contingent on abstinence (Azrin et al, 1982). Behavioural contracting and the CRA (Sisson & Azrin, 1993), which uses behavioural principles, aims to provide individuals with substance use disorders with natural alternative reinforcers by rewarding their involvement in the family and social community, and usually includes conjoint therapy, training in job finding, counseling focused on alcohol-free social and recreational activities, monitoring of disulfiram use
and an alcohol-free social club. Some of the largest treatment effects in the literature have been associated with the community reinforcement approach (Miller et al, 1995). The key appears to be helping the client to find and become involved in activities that are more rewarding than drinking (Heather & Stockwell, 2004).

Aversion therapy: The primary goal of aversion therapies is to produce an aversive reaction to alcohol by establishing a conditioned response to cues associated with drinking (Drobes et al, 2001). The conditioning can be accomplished by using electric shock, apneic paralysis, chemical agents or imaginal techniques. Overall, results indicate that aversion therapies are effective in the short term with respect to a reduction in alcohol consumption (Miller et al, 1995). In general, studies that have carefully defined procedures and which have documented the occurrence of classical conditioning have shown the strongest results (Heather & Stockwell, 2004).

Contingency Management: Contingency management procedures assist clients to re-structure their environment to decrease the rewards associated with alcohol use and increase the cost of excessive drinking. The principles of contingency management are based on operant or instrumental learning approaches to human behaviour (Bigelow, 2001). Contingency management techniques include providing incentives for compliance with alcohol treatment and positive reinforcement from spouses or friends for sobriety. This approach is combined with punishment, in the form of withdrawal of attention and approval contingent on the resumption of excessive drinking and provisions for social support, recreational activities and vocational counseling.

VII. SELF-HELP GROUP (SHG) AND 12-STEP-ORIENTED TREATMENTS: The SHG is a group of individuals with similar problems who meet voluntarily to help each other to help themselves. The common theme of all SHGs is of mutual aid of individuals helping each other by offering friendship and sharing common experiences. The most popular SHG for those with Alcohol problems is Alcoholic Anonymous (AA).

As a spiritual but nonreligious programme requiring beliefs in something beyond oneself, AA provides tools for its participants to maintain sobriety, including the 12 steps, group identification, and mutual help. AA is a voluntary, supportive fellowship, founded in 1935 by two alcoholics: Bill Wilson and Dr. Robert Smith. At present, approximately 9000 AA groups exist in 134 countries. All AA groups have regular meetings. Open meetings are held where friends, family and interested professionals can attend. Closed meetings are for AA members only. Fellowship is central to the movement. It is achieved by the giving and receiving of support through attendance at meetings, sharing, supports, sponsorship, service roles, telephone contact, the serenity prayer and slogans and the 12 traditions.

The essential components are that alcoholics help one another to stay sober, weekly meetings are held, there is verbal sharing of experiences and feelings, 24 hours support, empathic understanding and there is self-dedication to being abstinent from alcohol. It has been shown to be reasonably effective in reducing alcohol (or drug). More specifically, AA is a fellowship of men and women who share their experience, strength and hope with each other that they may solve their common problem and help others to recover from alcoholism. The requirement for membership is a desire to stop drinking. Other related groups include Al-Anon (friends and family) and Al-Ateen (teenage children of alcoholic individual). Other mutual help programmes include women for sobriety, rational recovery, double trouble and mentally ill chemical/ substance abusers.

VIII. MULTI-DIMENSIONAL FAMILY THERAPY: Family treatment models provide a framework for conceptualizing the inter-relationships between substance use and family functioning, can reduce isolation of the alcoholic, facilitate establishment of common family goals, help the family identify and deal with other problems such as poor communication and be used as a guide for treatment with any part of the family that is available for treatment (Collins, 1990; McCrady & Epstein, 1996). The primary focus is on three family models of alcoholism: Cognitive-behavioural, family systems, and family disease models.
I. Cognitive-behavioural treatment

Cognitive-behavioural treatment of couples: The treatment model described here follows logically from cognitive-behavioural theory (McCrady & Epstein, 1995). This model for conceptualizing drinking problems necessitates intervention at multiple levels with the individual, the spouse, the marital relationship, and other social systems in which the drinker is involved.

Cognitive-behavioural treatment of family members of the alcoholics: Families of alcoholics often function as well as nonalcoholic families if the alcoholic is able to achieve stable abstinence. If the alcoholic continues to drink and is unwilling to seek treatment, a number of cognitive-behavioural interventions can be utilized to improve the coping of family members. These interventions are:

Unilateral Family Therapy: Unilateral Family Therapy (UFT) (Thomas & Ager, 1993) has been developed to treat families in which an alcoholic family member is unwilling to reduce or quit drinking or seek treatment. The main goal of UFT is to use family members, usually spouses, as a positive rehabilitative influence to motivate the alcoholic family member to change drinking behaviour or seek treatment for alcohol problems. This approach was designed to be most suitable for attracting the most 'unmotivated, treatment resistant' (Meyers, 1996).

Therapy focuses on three areas of intervention: The coping of the spouse, the interactions of the couple and the individual alcoholic or identified patient.

The Community Reinforcement Approach (CRA) (Sisson & Azrin, 1993): Like UFT, CRA also uses family members, generally spouses or parents, as a positive rehabilitative influence. Family members provide information on the alcoholic's drinking pattern and discuss the problems caused by the alcoholic's drinking. A plan for getting the alcoholic into treatment is developed with the family member that can be implemented quickly at any time. Early evaluations of the effectiveness of CRA for families are promising and this approach appears to be particularly effective in families in which parents are trying to encourage their children to seek treatment (Meyers, 1996).

II. Family systems treatment

Systems theory focuses on pattern recognition and explains individual behaviour within the context of larger systems such as the marriage, family or community. Different systems theory models place differential emphasis on three concept areas: Wholeness, organization and relationships (Steinglass, 1978). Family systems model began to influence the alcohol field in the 1970s. Family system theory as applied to alcohol dependence is richly detailed by Steinglass et al (1987). Another important concept of alcoholism-oriented family systems therapy is that of family homeostasis. Steinglass et al (1987) define homeostasis as a family's need to maintain the family behaviour and environment within an acceptable range.

In the alcoholic family, change in the alcoholic's drinking necessitates a change in the family's basic organization and regulatory system. Interventions are rooted in the developmental perspective of the family systems approach, the family life history model (FLH) (Steinglass et al, 1987) which divides the family life cycle into early, middle, and late phase developmental stages. Each phase presents particular systemic tasks and the role of alcohol in the Alcoholic Family varies depending on life cycle phase. Using reframing techniques, the therapist explains to the family the functions that alcohol serves (McKay et al, 1996). As outlined by Steinglass et al (1987), family systems therapy as applied to alcoholic families has four general stages. The first stage, diagnosing alcoholism and labeling it as a family problem, is conducted by the therapist during an evaluation with the family. The primary goal of this stage is to determine whether the family fits the description of an alcoholic family or a family with an alcoholic member. Removing alcohol from the family system is described by Steinglass and colleagues (1987) as the second stage of treatment in which alcoholism has been labeled a family problem. The third stage treatment is
described as the emotional desert. During the fourth stage of treatment the family enters a resolution phase, toward either family re-stabilization or family reorganization.

III. Family disease model treatment

(i) Family disease model treatment of the alcoholics: Since proponents of the disease model consider alcoholism a family disease, treatment focuses on the alcoholics and family members. Family disease model treatment is based partially on the work of early system theorists, such as Bowen (1978). The disease model focuses on self-help groups and on concepts, such as enabling, detachment and codependency, which are not associated with systems approaches through separate but parallel involvement with aspects of the 12-step recovery programme. Treatment of the alcoholic family member focuses on facilitation of participation in AA.

(ii) Family disease model treatment of family members of the alcoholics: Family members are treated not for a drinking problem, but for codependence. Treatment is through attendance at disease model self-help groups, such as Al-Anon, Al-Ateen (groups for teenaged family members or alcoholics), ACOA (adult children of alcoholics) groups and COA (children of alcoholics) groups. They learn that a primary component of overcoming codependence is to stop taking responsibility for the alcoholic's drinking (Nowinski et al, 1992).

IX. BEHAVIOURAL MARITAL THERAPY: Behavioural marital therapy (BMT) has two main treatment goals, increasing marital reinforcement and improving communication skills. BMT relies heavily on therapist modeling, client in-session role plays and client homework assignments throughout the treatment. BMT for couples with an alcoholic member has been described (McCrady, 1989; Noel & McCrady, 1993; O'Farrell, 1986, 1993; O'Farrell & Cows, 1989; O'Farrell et al, 1984) to enhance commitment and goodwill, three exercises frequently are utilized to increase positive exchange and mutual reinforcement within the relationship: “catch your spouse”, “caring days” and “shared rewarding activities.”

X. THERAPEUTIC COMMUNITIES (TCs): Therapeutic Communities for addictions was founded in 1958 by Charles Dederich. It is a drug-free modality that utilizes a social-psychological, self-help approach to the treatment of drugs of abuse (Off et al, 2003). The principal aim of TCs is a global change in lifestyle. Suitability for long-term treatment in TCs is based on several indications that can be summarized across five main areas:

1. Health and social risk status: The individuals' experience of chronic or acute stress concerning physical, psychological, and social problems associated with drug use.
2. Abstinence potential: The individuals' ability to maintain complete abstinence in a nonresidential treatment setting.
3. Social and interpersonal function: The individual’s current capacity to function in a responsible way.
4. Antisocial involvement: The extent to which the individual’s drug use is embedded in an antisocial lifestyle.

The therapeutic community perspective has four interrelated views (De Leon, 1995):

1. View of the disorder
2. View of the person
3. View of recovery
4. View of right living

THE THERAPEUTIC COMMUNITIES TREATMENT PROGRAMME

Intervention: In the TC all of the activities are designed to produce therapeutic or educational effects. The 3 main classes of intervention focuses in the communities are: therapeutic/educational (e.g., individual counseling, groups, and seminars), community enhancement (e.g., various community wide meetings, ceremonies and rituals),
community and clinical management (e.g., privileges, disciplinary sanctions).

Dimensions: A complete description of change in the whole person includes both the objective behavioral dimensions as well as subjective change reflected in self perceptions and experiences. Behavioural change is described along four broad dimensions: the dimension of community member and socialization refer to the social development of the individual, the developmental and psychological dimensions refer to the evolution of the individual as a unique person. Subjective dimension of change consists of essential client perceptions and experience.

Stages of change: Two perspectives of changes are—programme stage and treatment stage. Three main programme stages are induction orientation, primary stage for 2-12 months, and reentry for 13-24 months. The treatment stages perspective more closely captures the evolving relationship between the individual and community by internalization.

XI. RELAPSE PREVENTION (RP): The Relapse Prevention (RP) approach utilizes coping skills training to a considerable extent. As a treatment intervention, it does not differ all that much from coping skills training, but its overall focus on situations that may be of high risk for relapse is of considerable value. Relapse prevention and recovery go side by side but it is not synonymous.

Recovery is viewed as a process involving personal and lifestyle change. To maintain abstinence, the client may need to make changes in any domain of functioning—physical, psychological, behavioural, interpersonal, family, social, spiritual, occupational and financial (Daley, 1988). Relapse is not uncommon during recovery. Relapse during recovery refers to a breakdown in the client’s attempt to modify substance use behaviour (Marlatt & Gordon, 1985). Relapse is a process which first occurs within one’s mind. Relapse shows itself in a progressive pattern of behaviour and most importantly, relapse is preventable. All psychosocial treatment approaches such as cognitive-behavioural therapy or 12-step counseling routinely integrate RP as part of the overall therapy (Beck et al, 1993; National Institute on Alcohol Abuse and Alcoholism, 1995). In addition, several models of RP have been developed that focus primarily on the major issues of relapse such as identifying and managing warning signs of relapse, anticipating and preparing for high-risk situations, enhancing social support systems, balancing lifestyle and managing lapses and relapses (Daley, 1988; Daley & Marlatt, 1997; Gorski, 1986; Gorski & Miller, 1986; Marlatt & Gordon, 1985; Zuckon et al, 1993). Several studies of married individuals with alcohol addiction conducted by O’Farrell (1993) and O’Farrell et al (1993) reveal that RP, in addiction to behavioural marital therapy (BMT), show promise. RP is based on the assumption that many different intrapersonal, interpersonal and lifestyle factors contribute to a lapse or relapse and it is usually a combination of interacting factors rather than one that eventuates in a client resuming substance use (Catalano et al, 1988; Daley, 1988; Marlatt & Gordon, 1985).

Common elements of Relapse Prevention Programmes (Rawson et al, 1993) are:
1. Psychoeducation
2. Identification of high-risk situations
3. Development of skills to cope with high-risk situations
4. Change in lifestyle to positive behaviours
5. Enhancing self-efficacy.
6. Planning for emergencies and lapses.

Clinical strategies for relapse prevention (RP)
RP strategies can be used in individual, family, or group sessions in any type of treatment setting—outpatient, intensive outpatient, partial hospital, and short or long term residential. Strategies aim at targeting:
1. High-risk situations such as intrapersonal determinants, interpersonal determinants and lifestyle factors.
2. Relapse warning signs: These are preceded by overt
and covert changes in attitudes, thoughts, emotional states and behaviours.

3. Negative emotional states (such as anger, anxiety, boredom, depression and loneliness) are the most common precipitants of relapse (Marlatt & Gordon, 1985).

4. Social pressures: To identify anticipated social pressure to be used, i.e., specific people, social events, and activities.

5. Family and social support system: Family and social support system play a crucial role in ongoing recovery and are associated with improved recovery rates (Galanter, 1992; Havassy et al., 1991; McGrady, 1989).

6. Interpersonal problems and conflicts are inability to trust, lack of satisfying intimate relationship, inability to establish or maintain reciprocal relationships, jumping from one relationship to the next, involvement in excessive or addictive sexual relationships.

7. Substance use triggers and cravings: Many environmental cues associated with prior use trigger thoughts and craving to use substance. Internal cues such as thoughts, feelings, and physical sensations also trigger cravings.

8. Cognitive distortions: Cognitive therapies have identified faulty beliefs and errors in thinking that play a role in substance abuse, depression, anxiety, and other problems (Beck et al., 1993; Ellis et al., 1988; Padesky & Greenberger, 1995).

9. Balanced life style: Evaluating daily activities such as sources of stress; health, relaxation, eating, and exercise patterns; leisure activities and hobbies; religious beliefs.


The "high-risk" situations or factors preceding relapse include:

Stress: Whether due to discrete negative life events or everyday hassles, stress greatly increases vulnerability to relapse.

Negative emotions: A wide range of 'negative' emotional states can precipitate relapse. These include anger, anxiety, depression, frustration or even boredom.

Positive emotions: Good feelings that come from socializing can sometimes trigger relapse. In other cases, drug use might be used as a reward or a means of celebration.

Interpersonal conflict: Relapse is often associated with conflict with family members and other individuals. This may particularly manifest as lack of trust by family members despite the patient being drug free for a period of time. The resultant anger or frustration may act as a strong precipitant for relapse.

Social pressure: Sometimes social pressure is overt, as and when someone offers the addict a drug. Often it is more indirect. Being enmeshed in a social network in which other people abuse drugs is especially risky.

Use of other substances: Use of any one intoxicant drug can trigger cravings for the primary drug of abuse or undermine self-control.

Presence of drug-related cues: Environmental cues (e.g., drug paraphernalia) elicit strong craving in some people who are trying to maintain abstinence and may even cause a 'conditioned' withdrawal syndrome.

The importance of each of these precipitating factors varies from person to person. In addition, relapse is often the result of several of them acting in combination.

What are the warning signs of relapse?

1. Change at thought level
   - Thoughts about the associated pleasure
   - Fear about well being
   - Loneliness leads to depression
   - Irritation and anger
   - Impatience
   - Self pity

2. Changes at the behavioural level
   - Compulsive behaviour
   - Impulsive behaviour
   - Tunnel vision
   - Denial and defensiveness
The two central concepts are those of high risk situations and coping strategies. High risk situations may be situations, events, objects, cognitions or mood states which have become associated with drug use and/or relapse. They may include negative mood states, social pressure, social networks, interpersonal conflicts, negative physical states and some positive emotional states. Relapse prevention requires the development of specific coping strategies to deal with high risk situations. These may include skills training and the development or strengthening of more global coping strategies.

Treatment Approaches with Limited Evidence of Effectiveness

There are also a number of commonly used treatment approaches that do not show any evidence of effectiveness. These approaches comprise the largest number of treatment studies and are summarized below (Heather & Stockwell, 2004).

a. Insight Oriented Psychotherapy: Psychotherapy seeks to uncover unconscious causes for a person’s alcohol problems. The goal is insight and psychotherapy is frequently studied as an adjunctive component to alcohol treatment. In general, studies do not reveal consistent positive results; in fact, the trend favors patients who did not receive psychotherapy (Miller et al, 1995).

b. Confrontational Counselling: Confrontational interventions seek to break down defenses, particularly denial. Historically, confrontation has been considered an essential component of alcohol treatment, yet no studies have shown positive findings for approaches using confrontation (Holder et al, 1991; Finney & Monahan, 1996; Miller et al, 1995). In a controlled evaluation of therapist styles, Miller and colleagues (1993) found that confrontation yielded significantly more resistance and predicted poorer outcomes-one year after a brief intervention. Miller and Rollnick (1991) suggested that confrontation is a goal rather than a procedure and that the occurrence of client resistance during a session should serve as immediate feedback for altering the therapeutic approach.

c. Milieu Therapy: Implicit in the use of milieu therapy is the idea that recovery is aided by the place in which therapy occurs. The therapeutic atmosphere is itself thought to be beneficial. This idea is commonly associated with inpatient or residential programmes which seek to promote an atmosphere of healing. Results of controlled research do not provide evidence to support residential/milieu therapy over less costly outpatient treatment and in fact, milieu therapy most frequently yields a less positive outcome when compared to a brief intervention (Miller et al, 1995).

CONCLUSION

Psychosocial treatments, in the form of advice and counseling, psychoeducation, interactive sessions, role-playing, feedback, skills training and providing emotional and social support, can be very useful for both the patient of alcohol dependence and his family. Such treatments may be meted out in professionally guided brief or extended interventions, or in the self-help approaches. All these, sometimes taken together, can be instrumental in achieving maintenance of abstinence, return of the alcohol user to the mainstream of life, and promotion of well being of the patient and his family. However, it needs to be kept in mind that pharmacological and psychosocial approaches to the management of alcohol abuse tend to go hand in hand, they are complementary to each other, and the best results have generally been obtained by a combined approach.

REFERENCES


THE SCHIZOPHRENIA PRODROME

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ABSTRACT

The deficit processes associated with schizophrenia may begin before the onset of illness, as currently defined. Essentially, the term refers to a period of prepsychotic disturbance, representing a deviation from a person's previous experience and behaviour. As in clinical medicine, prodrome is a retrospective concept, diagnosed only after the development of definitive symptoms and signs. The most widely used criteria for inclusion for pharmacological pre-onset prevention programmes predict conversion to psychosis with approximately 50 percent probability within 1 year under naturalistic treatment conditions. But a danger exists that premature conclusions will lead to widespread use of antipsychotic medications as standard care in the treatment of symptoms considered to be prodromal. Without information on base rates of conversion to schizophrenia, the extent to which an intervention is actually working is difficult to assess. The establishment of pre-onset prevention programmes can only be justified if the harm is minimized and if the benefits outweigh the risks.

Key Words: Schizophrenia, prodrome, prepsychotic

INTRODUCTION

Although the devastating consequences of schizophrenia have long been known, interest in preventive intervention has only recently emerged. A prodromal phase of schizophrenia has been recognized retrospectively since the time of Bleuler (1911); the possibility of intervention during a prospectively identified "prodromal" phase has a history almost as long. Recently, there has been a strong resurgent interest in this area. Evidence suggests that early antipsychotic medical intervention may be associated with better long-term outcome than delayed application of the same treatment (McGlashan, 1996; Ho et al, 2000; Craig et al, 2000).

The deficit processes associated with schizophrenia may begin before the onset of illness, as currently defined. The shift in focus toward early treatment has been encouraged by findings suggesting that the longer the psychosis remains untreated the poorer the prognosis and by the recent introduction of novel antipsychotic medications with more benign side effect profile than conventional neuroleptics (Cornblatt et al, 2002). The accurate characterization of prodrome therefore has diagnostic and prognostic significance.

The definition of the prodromal stage of schizophrenia

The term "prodrome" is derived from the Greek word "prodromos" meaning the forerunner of an event (Fava & Kellner, 1991). In clinical medicine, a prodrome refers to the early symptoms and signs of an illness that precede the characteristic manifestations of the acute, fully developed illness. Traditionally, the term has been used in psychiatry to refer to one of two different phases of schizophrenia (Herz, 1999): the phase of illness just preceding the initial onset of psychosis or the phase of illness just preceding a psychotic relapse in patients who have experienced prior episodes, i.e., 'initial' and 'relapse' prodrome. In the current intervention/prevention literature, the term specifically refers to the first description.

The definition most widely accepted is that the prodromal stage of schizophrenia begins with the first changes in behaviour and lasts upto the onset of psychosis. Keith and Matthews (1991) defined it as "a heterogeneous group of behaviours temporally related to the onset of psychosis". The definition used by Loebel et al (1992) was the time interval from onset of unusual behavioural symptoms to onset of psychotic symptoms. Beiser et al (1993) defined it as the period from first noticeable symptoms to first prominent psychotic
symptoms. Essentially, the term refers to a period of prepsychotic disturbance, representing a deviation from a person’s previous experience and behaviour. As in clinical medicine, prodrome is a retrospective concept, diagnosed only after the development of definitive symptoms and signs.

Evolution of the concept

The prodrome is a process, involving changes in experiences and behaviour over time, rather than a simple list of symptoms at any one point. Docherty et al (1978) described the process as “a moment to moment march of psychological changes.” Previous authors have generally fallen into two schools of thought, or variations of them, regarding the sequence of changes that leads to psychosis.

Pattern 1: Nonspecific changes followed by specific prepsychotic symptoms and then psychosis

Most authors consider the prodrome to consist of nonspecific neurotic-type symptoms, followed by more marked deviations from normal, eventually leading to frank psychosis (Cameron, 1938; Docherty et al, 1978; Herz & Melville, 1980). Subjective symptoms are usually accompanied by some deterioration in role functioning and other behavioural changes. Cameron (1938) described two patterns of nonspecific changes in the schizophrenic prodrome: “Changes of hypofunction” and “changes of hyperfunction.” The hypofunction pattern is characterized by seclusive, quiet and withdrawn behaviour. The hyperfunction pattern is characterized by complaints of nervousness, restlessness, tenseness, unease, apprehension and anxiety. Cameron described these nonspecific symptoms as lasting weeks to years before the onset of the “specific” symptoms heralding impending psychosis. These are “symptoms of a clinically recognizable schizophrenic nature” and consist of suspiciousness, feelings “... that their external environment had lost its feeling of familiarity” and feeling “dazed” or “confused”. These symptoms would seem to be attenuated forms of frank psychotic phenomena. Cameron believed that these early specific changes often persisted for months to years before the person came to the attention of psychiatric services.

Pattern 2: Early specific changes, with neurotic symptoms as a reaction to these, then psychosis

An alternative view on the pattern of changes (McGhie & Chapman, 1961; Yung & McGorry, 1996) is that specific subjective changes occur first and are followed by apparent neurotic symptoms and behavioural changes. These putative phenomena consist of the following:

1. Disturbances in attention: The chief abnormality in attention was the inability to filter out irrelevant stimuli, a disturbance of the ability to selectively attend to information.

2. Disturbances in perception: Included were abnormalities in visual perception, such as seeing objects as altered in size, shape, colour, brightness, movement, and distance away from the observer, inability in some cases to perceive objects as a whole, being diverted to inspecting parts of the whole instead, resulting in an inability to see the overall Gestalt of the image which relates back to the disorder of selective attention.

3. Blocking phenomena: This term refers to sudden disruptions in attention, thought, perception, memory, speech, and motility. The patient is aware of intermittent “blank spells” or “trances.”

4. Disturbances in speech production: These are described as intermittent and include disturbances in the production of speech as well as in the ability to understand speech. They are secondary to a disorder of selective attention.

5. Disturbances in motor function: This includes loss of spontaneous movements and coordination. Disorders of motility are secondary to disturbances of both attention and perception, for example, having to stop moving because of certain visual or auditory sensations.

Outpost syndromes: These are a variant of the patterns of change in the evolution of psychosis. Outpost syndromes are clusters of symptoms and behaviours that cross-sectionally appear to resemble prodromes but that resolve spontaneously without immediately progressing to psychosis. Huber et al (1980) described the symptomatology of outpost syndromes as resembling a defect or residual state in chronic schizophrenia and coined the term “basic symptoms” for such phenomena. The basic symptoms consist of subjective complaints of impairments in cognitive, emotional, motor, and autonomic functioning as well as in bodily sensation, energy, external perception and tolerance to normal stress (Koehler &
The hybrid/interactive model: Instead of following one certain pattern of changes, psychotic prodromes can be a combination of patterns 1 and 2 above and also incorporate the outpost syndrome. In this hybrid/interactive model, people move in and out of symptomatic periods of both the nonspecific type and the attenuated psychosis type. Both types of symptoms may precede psychosis and either may occur primarily. Reactive symptoms, such as anxiety, can occur in response to prodromal and psychotic symptoms and behavioural changes may occur in response to any of these symptoms.

Traditional or Genetic High-Risk Model: A range of studies recruited individuals with a family history of psychotic disorder (usually schizophrenia) during early childhood and monitored them over time and in some studies for up to 35 years (Cannon & Mednick, 1993). Selection of subjects for these studies on the basis of a crude measure of genetic risk (family history) restricts the generalizability of any findings to the early detection of schizophrenia, as most cases do not in fact have a first degree relative with the disorder (Kendler & Gardner, 1997). Conversely, only a low proportion of cases in these studies eventually develop schizophrenia or psychosis, and the latent period is long. These studies have been characterized by low positive predictive values and high rates of false positives, and they tend to become obsolete before their eventual completion date. This strategy was better suited for schizophrenia patients rather than for early detection.

The Ultra High-Risk or "Close-in" Strategy: The development of an alternative high-risk strategy with a higher rate of transition to psychosis, a lower false-positive rate, and a shorter follow-up period than in the traditional genetic studies has been central to progress in preventive interventions for psychosis. Bell (1992) proposed that "multiple-gate screening" and "close-in" follow-up of cohorts selected as being at risk of developing a psychosis would minimize false-positive rates. Multiple-gate screening is a form of sequential screening that involves putting in place a number of different screening measures to concentrate the level of risk in the selected sample. In other words, an individual must meet a number of conditions to be included in the high-risk sample rather than just one condition, as in the traditional studies. Close-in follow-up involves shortening the period of follow-up necessary to observe the transition to psychosis by commencing the follow-up period close to the age of maximum incidence of psychotic disorders. To improve the accuracy of identifying the high-risk cohort further, Bell (1992) also recommended the use of signs of behavioural difficulties in adolescence as selection criteria, such as the inclusion of clinical features. This also allows the approach to become more clinical, to move away from traditional screening paradigms and to focus on help-seeking troubled young people who are therefore highly "incipient" and frankly symptomatic. To maximize the predictive power as well as enable the engagement of the patient to be well justified on immediate clinical grounds, the timing is critical. Patients should be as "incipient" as possible, yet this is difficult to measure.

The prodrome construct is like schizotypy and schizotaxia in that symptoms are milder than in frank schizophrenia but differs from them in that symptoms are of relatively recent origin and escalating in severity rather than being stable and enduring. The prodrome construct is similar to the concept of "children at risk" in sharing heightened risk for future progression to schizophrenia but differs in requiring that the state be symptomatic, in not requiring that family history of schizophrenia be present and in connoting greater imminence of risk. The prodrome construct should also be compared and contrasted with DSM-IV conceptualizations of fully psychotic disorders that have not been present long enough to meet criteria for schizophrenia or schizoaffective disorder. These DSM-IV concepts are psychotic disorder not otherwise specified (NOS), brief psychotic disorder and schizophreniform disorder.

Risk factors vs prodromal symptoms

There is a fundamental distinction between precursors and prodromes. Precursor signs and symptoms precede the disorder without predicting them with certainty and operate as predisposing risk factors. On the other hand, a prodrome is identified only retrospectively after the subject meets criteria for a full-blown disorder. Precursors are mainly identified by epidemiological approaches and prodromes by clinical research approaches (Cornblatt et al, 2002).

Precursors: Epidemiological research has elucidated a number of risk factors for schizophrenia. General population and birth cohort studies have observed increases in risk for schizophrenia associated with family history, obstetric
complications, urban residence, season of birth, low IQ and delayed developmental milestones. Family and twin studies have found evidence of deviant behavioural, neurocognitive, neurophysiological and neuromorphological patterns among unaffected relatives of cases with schizophrenia (Tsuang et al, 2002).

Prodromes: Retrospective follow-back studies in first onset patients with schizophrenia have observed a number of different prodromal syndromes and symptoms. Many precursors or risk factors occur in early childhood; however, they may not constitute realistic targets for early intervention programmes. One study found that about 75 percent of patients with schizophrenia were found to have passed through three stages of prodromal symptoms in a fixed order (Hafner & ander-Heiden, 1997). That is, patients reported sub-threshold psychotic symptoms in the year preceding onset, prominent negative symptoms before two years of onset and nonspecific affective and anxiety symptoms earlier. These retrospectively identified symptom patterns are used in a prospective manner to predict psychoses in early recognition programmes. In this context, these symptoms and signs are used to define "at-risk mental states" (McGorry et al, 2001). However, prospective data would provide a much sounder basis for any intervention.

These concepts can be combined into a stage model of progression to schizophrenia.

In this model, four phases are discriminated, moving from the most proximal to the most distal with respect to onset of schizophrenia:

1. A psychosis phase, which might progress to schizophrenia;
2. A late prodromal phase, consisting of attenuated psychotic symptoms or brief, limited intermittent psychosis;
3. An early prodromal phase, consisting of negative and non-specific, mainly affective symptoms as well as psychosocial impairment; and
4. A premorbid phase without psychosocial impairment but with risk factors and vulnerability traits present.

Clinical features

Yung and McGorry (1996) have listed the following features.

Table 1: Prodromal features in first-episode psychosis most commonly described in first-episode studies (in descending order of frequency)

- Reduced concentration, attention
- Reduced drive and motivation, anergia
- Depressed mood
- Sleep disturbance
- Anxiety
- Social withdrawal
- Suspiciousness
- Deterioration in role functioning
- Irritability

Table 2: Subjective symptoms and observable behavioural changes as occurring during the prodromal phase of schizophrenia

1. Neurotic symptoms
   - Anxiety
   - Restlessness
   - Anger, irritability
2. Mood-related symptoms
   - Depression
   - Anhedonia
   - Suicidal ideas
   - Mood swings
3. Changes in volition
   - Apathy, loss of drive
   - Boredom, loss of interest
   - Fatigue, loss of energy
4. Cognitive changes
   - Disturbance of attention, inability to concentrate
   - Preoccupation, daydreaming
   - Reduced abstraction
5. Physical symptoms
   - Somatic complaints
   - Loss of weight
   - Poor appetite
   - Sleep disturbance
6. Other symptoms
   - Obsessive compulsive phenomena
   - Dissociative phenomena
   - Increased interpersonal sensitivity
   - Change in sense of self, others, or the world
   - Change in motility
   - Speech abnormalities
   - Perceptual abnormalities
   - Suspiciousness
   - Change in affect
7. Behavioural changes
   - Deterioration in school, work or other role functioning
   - Social withdrawal
   - Impulsivity
   - Odd behaviour
   - Aggressive, disruptive behaviour

Prodrome in current classificatory systems

The DSM-III-R (APA, 1987) focuses mainly on observable behavioural changes in its description of the prodromal
features of schizophrenia. It provides a list of nine symptoms in its operationalized criteria for schizophrenia prodrome:

1. marked social isolation or withdrawal;
2. marked impairment in role functioning;
3. markedly peculiar behaviour;
4. marked impairment in personal hygiene and grooming;
5. blunted or inappropriate affect;
6. digressive, vague, overelaborate or circumstantial speech, or poverty of speech or poverty of content of speech;
7. odd beliefs or magical thinking;
8. unusual perceptual experiences;
9. marked lack of initiative, interests or energy.

This list of criteria has been dropped from the DSM-IV (American Psychiatric Association, 1994). ICD-10 (World Health Organization, 1994) acknowledges a prodrome as part of the schizophrenia syndrome, though prodromal symptoms are not included in its description of schizophrenia (Keith & Matthews, 1991).

Criteria for high risk for developing schizophrenia (Yung et al, 1998; Yung & McGorry, 1996):

Category 1 requires at least one of the following attenuated (i.e., subthreshold) positive symptoms: ideas of reference, odd beliefs or magical thinking; perceptual disturbance; odd thinking and speech; paranoid ideation and odd behaviour or appearance.

Category 2 consists of individuals who have experienced transient psychotic symptoms which have spontaneously resolved within one week.

Category 3 combines genetic risk (i.e., being the first degree relative of an individual with a diagnosis of schizophrenia) with state changes in functioning (must have undergone a substantial decline in the previous year). It should be noted that the criteria in the first two categories have been largely derived from positive symptoms, and that negative signs and symptoms were not utilized as the basis of any of the categories.

Instruments for Assessment of Prodromal Signs and Symptoms:

The PRIME (Prevention through Risk Identification, Management, and Education) prodromal research team at Yale University has developed two instruments to rate and track these above described three phenomena cross-sectionally and over time. These are:

A- The Structured Interview for Prodromal Syndromes (SIPS) (McGlashan, 1996): This is a structured diagnostic interview used to diagnose the three prodromal syndromes and may be thought of as analogous to the Structured Clinical Interview for DSM-IV (SCID) or other structured diagnostic interviews. The SIPS includes the SOPS, the Schizotypal Personality Disorder Checklist (APA,1994), a family history questionnaire (Andreasen et al, 1997), and a well-anchored version of the Global Assessment of Functioning scale (GAF) (Hall et al, 1995). The SIPS also includes operational definitions of the three prodromal syndromes (the Criteria of Prodromal Syndromes [COPS]) and an operational definition of psychosis onset (Presence of Psychotic Syndrome [POPS]). As part of the SIPS, the COPS and the POPS are applied to the information from the positive symptoms of the SOPS, the Schizotypal Personality Disorder Checklist, and the family history questionnaire to diagnose a prodromal syndrome or the presence of psychosis.

B- The Scale of Prodromal Symptoms (SOPS) (McGlashan, 1996): This is a 19-item scale designed to measure the severity of prodromal symptoms and changes over time. It may be conceptualized as analogous to the Positive and Negative Syndrome Scale, the Brief Psychiatric Rating Scale, and other established severity rating scales for patients who are fully psychotic. The SOPS contains four subscales for positive, negative, disorganization and general symptoms constructs. There are five positive, six negative, four disorganization, and four general symptoms items. The negative, disorganization and general symptoms rated on the SOPS are not currently part of making prodromal diagnoses according the COPS but are useful in describing the severity of the diagnosis once established.

Some other instruments used to assess prodrome are: The Criteria of Prodromal Syndromes (COPS) diagnostic criteria (McGlashan et al, 2003; Woods et al, 2001), Instrument for the Retrospective Assessment of the Onset of Schizophrenia (IROAS) (Hafner et al,1992), Bonn Scale for the Assessment of Basic Symptoms (BSABS) (Huber et al,1980) and
Duration of the schizophrenia prodrome

Virtually all patients experience a prodromal phase, which varies in duration from a very brief period to several years. Varsamis and Adamson (1971) found a tendency for the duration of the prodromal phase to be bimodal in distribution: For some patients it was less than 1 year and for others more than 4 years. Beiser et al (1993) reported that the prodromal period was highly variable in length, from none at all to 20 years duration. Loebel et al (1992) found that the time interval from the onset of prodromal symptoms to the onset of psychotic symptoms lasts a mean of 98.5 weeks. This time interval was not significantly different for the schizophrenia and schizoaffective subjects, and there was no significant gender difference.

Progression to schizophrenia

Conversion rates depend not only on the inclusion criteria but also on the population sampled and the treatments applied. Although conversion to psychosis is considered to be the main criterion, transitions to other severe mental disorders are also common but receive less attention. Conversion rates to psychosis vary across various studies even though the samples were recruited through comparable criteria. The most widely used criteria for inclusion for pharmacological pre onset prevention programmes, the Australian Criteria (Yung et al, 1998), predict conversion to psychosis with approximately 50 percent probability within 1 year under naturalistic treatment conditions, as shown in the table 3.

Table 3

<table>
<thead>
<tr>
<th>Study</th>
<th>Inclusion criteria</th>
<th>Conversion rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yung &amp; McGorry, 1996</td>
<td>1) Psychosocial decline with positive family,</td>
<td>21% in 20 months</td>
</tr>
<tr>
<td></td>
<td>or 2) two DSM-III-R prodromal symptoms,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or 3) schizotypal or schizoid personality</td>
<td></td>
</tr>
<tr>
<td>Yung et al, 1998</td>
<td>1) BLIPS,</td>
<td>41% in 12 months,</td>
</tr>
<tr>
<td></td>
<td>or 2) subthreshold psychiatric symptoms,</td>
<td>50% in 24 months</td>
</tr>
<tr>
<td></td>
<td>or 3) psychosocial decline with positive family history</td>
<td></td>
</tr>
<tr>
<td>Cornblatt &amp; Malhotra, 2001</td>
<td>Identical with Yung et al, 1998</td>
<td>14% after 6 months</td>
</tr>
<tr>
<td>McGlashan et al, 2001</td>
<td>Identical with Yung et al, 1998</td>
<td>54% in 12 months</td>
</tr>
<tr>
<td>Klosterkotter et al, 2001</td>
<td>Two cognitive “basic symptoms” in subjects with mental state at risk</td>
<td>59% in 6-9 years, 97% with variable length of state at risk follow-up period (mean 9.6 yrs)</td>
</tr>
</tbody>
</table>

Neurodevelopmental issues

Pantelis et al (2003) reported striking baseline differences in regional gray matter volume between those who subsequently developed a psychotic illness and those who did not; specifically, those who developed psychosis had less gray matter in the right medial temporal, lateral temporal inferior frontal cortex and in the cingulate cortex bilaterally. In the longitudinal comparison, when rescanned, individuals who had developed psychosis showed a reduction in gray matter in the left parahippocampal, fusiform, orbitofrontal cerebellar cortices and the cingulate gyri, whereas longitudinal changes were restricted to the cerebellum in those who did not become psychotic. Such a progressive developmental pathophysiology of the illness during adolescence may result from several factors working singly or in combination.

First, genetic factors may predispose to an excess synaptic elimination, increased neuronal apoptosis, decreased cell somal size, or a combination of these processes during adolescence. Such changes might result from altered expression of genes that are critical for neurodevelopmental processes such as glutamatergic NMDA receptor expression (Olney & Farber, 1995), brain-derived neurotrophic factor levels (Nawa et al, 2000), or altered dynamics of dopaminergic and GABAergic neurotransmitter systems.

Second, hormonal changes, especially of the reproductive steroids, could modulate brain maturational processes such as synaptic pruning and/or myelination (Amateau & McCarthy, 2002). This possibility is supported by observations that age-related gray matter volume reductions during adolescence in
healthy males might be steeper than those of healthy females (De Bellis et al, 2001).

Third, psychosocial environmental factors might play a significant role as well. It is known that environmental enrichment leads to increased spine density and dendritic arborization. Likewise, environmental impoverishment or stress could conceivably lead to the opposite, that is, increased fallout of synapses and/or neurons and decreased neuronal viability (De Bellis et al, 2001).

**Neuropsychological markers**

Prodromal patients showed significantly better performance than patients with schizophrenia on all neuropsychological functions (Martin et al, 2002). Controls differed significantly from patients with schizophrenia for all neuropsychological functions. There was a tendency for verbal fluency to correlate with verbal IQ in the prodromal sample. No other neuropsychological parameters correlated significantly with verbal IQ in patients at risk of psychosis.

**Management**

The importance of early detection and treatment of psychotic disorders has been raised in psychiatric literature for some time. Some have called for "the detection of very early disorder" to prevent later serious ill health.

The notion that psychosis is toxic to the brain, first formulated by Wyatt (1991) and supported by compelling but indirect evidence (Wyatt & Henter, 1998; Copolov et al, 2000) continues to be very influential throughout the field. It remains essentially a hypothesis. While this theory may be true, there is, at this time, no direct physiological data available to conclusively support it. Secondly, the related assumption that the longer psychosis continues untreated the worse the outcome i.e., the Duration of Untreated Psychosis (DUP) effect, was originally based on evidence reported by several investigators (e.g., Haas et al, 1998; Loebel et al, 1992; Wyatt & Henter, 1998; Wyatt, 1991). However, the strength of this effect has been increasingly challenged, partially because of contradictory findings reported in several recent studies (Craig et al, 2000; Ho et al, 2000) and, on more theoretical grounds, by researchers who maintain that the correlation between the DUP and outcome is not causal but instead reflects a third factor, severity of illness.

Minimizing the delay between onset of psychosis and treatment can reduce psychological, social and possibly biological disruption. Intervention at the time of emerging psychosis may also be possible. There is also a need for an exit strategy (i.e., the determination of when to discontinue treatment in an individual who does not develop schizophrenia), and the advisability of pharmacological interventions that specifically target neurocognitive deficits, and the possibility that antidepressant medications may be as effective or more effective, with fewer side effects, than antipsychotic medication for prodromal individuals.

Medications that reduce stress may reduce risk of clinical deterioration in individuals with a biological susceptibility for schizophrenia. Antidepressants, anxiolytics and mood stabilizers might, in some cases, enhance a vulnerable individual’s ability to cope with stressful life transitions (diathesis-stress model of schizophrenia) (Cornblatt, 2001). A placebo-controlled and double-blind trial of olanzapine focusing on symptoms over eight weeks, on mean maximum olanzapine dose of 10.2 mg/day (Woods et al, 2003) revealed symptomatic improvement in prodromal patients. Weight gain was the principal adverse effect observed with olanzapine.

Psychosocial interventions: Current approaches to the clinical practice and study of psychosocial interventions reflect the stress-vulnerability model. According to Falloon et al (1996), "the aim of the new psychosocial strategies is to reduce the impact of environmental stresses on biologically vulnerable people while promoting their social functioning in the community". Psychosocial interventions help to educate, train and rehabilitate the client to facilitate a full functional recovery. Specifically, psychosocial interventions help the young person to regain his capacity for psychological well-being, social and occupational participation and improved quality of life in general. Key components include psychoeducation and family engagement. Psychoeducation assists the young person and his family in understanding psychosis as a brain disorder. It can teach both coping and problem-solving skills to better assist the individual and his family members in dealing with the possible manifestations of the illness and thus promote improved outcome.
Criticism against intervention

A danger exists that premature conclusions will lead to widespread use of antipsychotic medications as standard care in the treatment of symptoms considered to be prodromal. Without information on base rates of conversion to schizophrenia, the extent to which an intervention is actually working is difficult to assess.

Assuming the conversion rate to be around 50%, half of the individuals identified as prodromal will not develop schizophrenia and may, therefore, be treated unnecessarily. This rate of false positive identifications is only acceptable if the treatment provided is benign (or still better, of benefit), to all individuals. There are a number of factors to suggest that this is not the case. First, regardless of the type of early intervention provided, the individuals involved will be subject to the stigma associated with serious mental illness. Secondly, although many of the severe side effects associated with traditional neuroleptics can now be avoided, nevertheless, treatment with novel antipsychotics also has negative effects like excessive weight gain. Finally, and perhaps most importantly, the effects of long-term use of novel antipsychotic medications on the developing adolescent brain are as yet unknown. In the absence of this information, the possibility of deleterious effects in individuals who may never need treatment in the first place raises a serious ethical concern. The establishment of pre-onset prevention programmes can only be justified if the harm is minimized and if the benefits outweigh the risks.

Implications for clinical practice

1. Maintain high level of suspicion of potential psychosis, particularly where DSM-III-R prodrome criteria are met and are of long duration. This should be communicated to primary health care team staff. There is also need for referral guidelines encouraging this low threshold.
2. Health promotion about mental health service, stress and coping strategies.
3. The importance of raising level of public awareness education on diagnosis and treatment of psychosis, together with need to reduce duration of untreated illness.
4. Contact (especially first contact) with mental health services should be easy and minimally stigmatizing.

Youth and user focused approaches are likely to be of benefit.

5. Monitoring pathways to care to seek improvement in access.
6. Flexibility of service response. It doesn't have to be all or nothing. Ambiguous cases can often be monitored without difficulty.
7. Collaborative work with other agencies.

Ethical issues

This also leads us into the ethical mine field. Even if the predictive efficacy can be further improved, there are still likely to be false positives, probably many. If we then propose to intervene in some way, we may create more problems than we solve. On the other hand, it is recognized that reducing duration of untreated psychosis (DUP) is an important prognostic factor and could have significant benefit on progress and outcome and taking this approach maximizes any chance of "catching them early" (Yung & McGorry, 1996). Despite some progress, the stigma of mental illness is still pervasive and disabling. If we, by offering treatment, label people as a (potential) psychiatric case, we allow others (family, friends, and employer, society) to also so label them, with all the myriad drawbacks and serious social disability that this entails. We could increase the stressors for a person potentially to the extent of making a breakdown more likely! With a preponderance of potential "false positives", it would also be hard to test and distinguish who had illness prevented by treatment and who would not have got ill anyway. It seems that to go too far down this road is likely to be excessively damaging and paternalistic, unless we can refine the paradigm to a greater extent than is likely to be possible at present.

CONCLUSION

Caution is required in what is communicated to patients and their families; not only in what is said but in how it is said. In this internet age, with its endless supply of both information and misinformation, there is a double burden on practitioners to give people enough understanding that they do not look to unvetted sources for guidance, and yet to provide this information without implying a needless or anxiety-provoking inevitability to the spectre of disease.
It is incumbent on researchers and clinicians to exercise caution in defining who is a candidate for early intervention. Current prodromal populations receiving treatment are symptomatic and well defined. The potential of intervention to have a negative impact on the patient's life increases with shift toward a target population that is younger, less symptomatic or less strictly delineated. There is also a difference between treating a patient who is help-seeking and going out to look for patients or families based on screening criteria. Introducing the idea that an individual is at risk for psychosis or schizophrenia is a potential burden and should be undertaken with discretion.

Today, in clinical practice as well as in research programmes, the prodromal-like patient is increasingly likely to be offered treatment. Given the diverse course of illness following the first psychotic episode, including the heterogeneous nature of schizophrenia, it is unlikely that intervention strategies will ever represent a 'one size fits all' approach. Rather, there is likely to be a menu of strategies of proven efficacy that will be tailored by adept clinicians to fit the needs of each individual.

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DRUG TRIAL CONTROVERSIES IN INDIA

J.K. Trivedi¹, Pawan Kumar Gupta²

ABSTRACT

India has become the preferred hub for the conduct of clinical drug trials. This dramatic shift is due to lower cost, favourable infrastructure and favourable regulatory affairs in India. According to estimates of a global consultancy, McKinsey and Co., by 2010 global pharma majors would be spending up to $1.5 billion just for clinical trial in India. The conduct of clinical trials raises several ethical and scientific concerns. These largely involve the issues of the use of placebo controls, especially where effective treatments exist and exposing the placebo control group to greater risks than the treatment group; the problem of how informed, voluntary and competent the consent obtained for such trials really is, especially in vulnerable populations and when research is conducted in settings of routine clinical care. An additional issue is that of the ethics of conducting clinical trials in resource-poor settings that appear to be purely for the regulatory purposes of foreign agencies. In this paper an attempt has been made to discuss all these controversies surrounding the conduct of clinical trials, negative as well as positive aspects of these trials and what is the current need of the hour.

Key Words: Clinical drug trials, controversies, India, research

INTRODUCTION

Drug trials, commonly known as clinical trials, are scientific tests on human volunteers. Such trials are carried out in three phases. In the first phase, studies are carried out on volunteers to determine the safety of the drug. In the second phase, the trials are on persons having the disease or medical condition to determine whether the drug has some level of therapeutic effect. In the last phase, trials are long-term studies on patients to determine whether the drug will be truly effective in normal medical settings.

India has become the preferred hub for the conduct of clinical drug trials. According to estimates of a global consultancy, McKinsey and Co., by 2010 global pharma majors would be spending up to $1.5 billion just for clinical trials in India (Rowe et al, 2002).

What has led to this dramatic shift in the location of clinical trials?

The favourable infrastructure (Sinha, 2004; Lamberti et al, 2004; Borfitz, 2003) is as follows:

1. India has a huge genetically, culturally and socio-economically diverse population base of more than 1 billion (Indians represent about 15% of the global population).
2. India has the largest pool of treatment naïve patients with variety of diseases ranging from tropical infections to degenerative diseases (e.g. the highest number of cancer and diabetes patients are found in India).
3. Patient: doctor ratio is high.
4. There is no dearth of professionals trained in the field of medicine. India has a large pool of highly qualified and dedicated scientists and clinical research professionals.
5. The country is renowned for its prowess in information technology.
6. English is a primary language of education and communication among Indians.

There has been additional factors which are as follows:

Lower cost: A Robobank India report highlights that India’s biggest advantage is the low cost for drug trial. For instance, trials for a standard drug in the United States can cost up to
150 million, whereas a trial in India is conducted for nearly half that amount (Clinical trials, 2004). Since clinical research costs are driven by human labour, much of this cost difference is attributable to the lower salaries of physicians, nurses, and study coordinators in developing countries (WHO, 2006). The large pool of potential research participants and the lower cost of research in countries such as China and India provide opportunities to accelerate recruitment (Rowland, 2004; Stough et al, 2007; Rai, 2005).

Favourable Regulatory Affairs: Clinical testing in developing countries is also attractive to pharmaceutical companies because it can help them overcome regulatory barriers for drug approval in these countries in which the population size alone offers the promise of expanding markets (Schmidt, 2001). Widespread adoption of the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use Good Clinical Practice (ICH-GCP) guidelines and stronger intellectual property protections in developing countries may also have contributed to the globalization of clinical research (Bailey et al, 2007).

These favourable regulatory affairs in India are one of the major attractions for this globalization of research trials. The Drugs Controller General of India (DCGI) is responsible for regulatory approvals of clinical trials in India (Bhatt, 2004). The DCGI’s office depends on external experts and other government agencies for advice. Additional permissions are required for the export of blood samples to foreign central laboratories. All this usually takes about three months in India. The US FDA gives an approval in an average of thirty days. However, most US trials are delayed because of the time taken for patient recruitment. The potential for a fast patient recruitment in India may partly make up for the delay in regulatory approvals.

Certain recent changes in regulatory affairs encourage clinical trials in India. In 2005, the Schedule Y of the Drugs and Cosmetics Act was amended. Earlier, foreign drugs trials could be conducted only at one phase below the highest phase of testing abroad. Now, parallel global clinical trials are possible in India. Permission is granted for concomitant phase II and phase III trials (Ministry of Health and Family Welfare, 2005).

Ethical and Scientific Question Raised on Drug Trials: The conduct of clinical trials raises several ethical and scientific concerns (Stough et al, 2007; Shuchman, 2007). It largely involve the issues of the use of placebo controls, especially where effective treatments exist (Rothman & Michels, 1994; Taubes, 1995; World Medical Association, 1964) and exposing the placebo control group to greater risks than the treatment group (Edwards et al, 1998a); the problem of how informed, voluntary and competent the consent obtained for such trials really is, especially in vulnerable populations and when research is conducted in settings of routine clinical care (World Medical Association, 1964). More recent concerns pertain to the ethics of conducting clinical trials in the developing world (Angell, 1997). An additional issue is that of the ethics of conducting clinical trials in resource-poor settings that appear to be purely for the regulatory purposes of foreign agencies.

Controversies Regarding use of Placebo: Is it Unethical or Justified?: The major concern about randomized control trials (RCTs) is that by randomisation, patients are exposed to risks they would not face if they had not participated in such trials. Systematic reviews of the evidence indicate that participation in RCTs is not associated with greater risks than receiving the same treatment outside RCTs (Vist et al, 2004) and that participants given the active intervention as well as controls had better outcomes than those who declined participation, even after adjusting for prognostic confounders (Edwards et al, 1998a,b).

There is no disagreement that placebo or untreated controls are not appropriate in trials of therapy for life-threatening conditions if a treatment that prolongs or preserves life is available. The disagreement centres on trials of therapy for non-life-threatening conditions. In general, the empirical evidence supports the conduct of RCTs if true equipoise exists that is, if both drugs offer equal benefits, or the known potential side-effects of the treatments are unequal. Replacement of Article II.3 the 1996 version of the Declaration of Helsinki of the World Medical Association (WMA) by the new Article 29 with a clarification in 2001, provides more flexibility and justifies the conduct of clinical trials with a placebo control group “for compelling and scientifically sound methodological reasons” or if its use is for “a minor condition and the patients who receive placebo will not be subject to any additional risk of serious or irreversible harm”. In keeping with the declaration of Helsinki, ICMR guidelines (Indian Council of Medical Research, 2006) also allows for “proper justification” for the use of placebo in control arm.
Tharyan (2006) also emphasized the need of study-specific review of the justifications for placebo use, based on scientific merit and study-specific risk involving careful subject selection and risk-reduction procedures.

The well-conducted randomised controlled trial (RCT) is widely regarded as providing the most unbiased estimate of the true efficacy of interventions (Schulz et al, 1995; Kunz et al, 2002; Juni et al, 2001). There is compelling evidence of placebo responses in psychiatric illness, for instance in major depression (Walsh et al, 2002) or in mania (Khanna et al, 2005). This appears to justify the use of placebo in drug trials from a scientific point of view, since spontaneous remission is not unusual and would not be detected if a placebo is not used.

Placebo-controlled trials are not uniformly unethical when known effective therapies are available; rather, their acceptability is determined by whether the patient will be harmed by deferring therapy. If patients are not harmed, such trials could ethically be carried out (Temple & Ellenberg, 2000). If the trial was conducted in an inpatient setting with careful evaluation of all participants for worsening, non-response in a reasonable period of time or adverse effects, and the protocol permitted withdrawal of any participant at the discretion of the investigator, then harm could be minimised.

**Issue of Obtaining Informed Consent:** To protect the interests of the study participants, a written informed consent is usually required before the recruitment. Low literacy levels, poverty in India and variations in the amount of information divulged when added to the pressure from the sponsors for early completion of patient enrolment do at times lead to unethical recruitment (Sriram et al, 1991). Another issue of concern pertains validity of informed consent in subjects with disputed capacity (for example, psychotic patients) and in vulnerable populations.

These issues may compromise the validity of obtaining competent informed consent but these can be solved by proper assessment of subject’s mental capacity (Oldham et al, 1999) and/or use of Proxy consent from a responsible relative/informant (Tharyan, 2006). An increase in the literacy and socioeconomic levels is expected to increase the awareness of patients regarding the consent they give for clinical trial studies. Adopting creative intervention to improve patients’ capacities to consent (Lidz et al, 1988; Wirshing et al, 1998), proper implementation and documentation of the "informed consent process" as prescribed by Good clinical practice guidelines (GCPG) may overall improve the quality of obtaining informed consent.

It leaves local research ethics committees with a considerable role to play in ensuring the ethical conduct of randomised controlled trials, particularly when placebos and vulnerable subjects are involved. The Indian Council of Medical Research (ICMR) guidelines for clinical trials insist on the setting up of ethics committees at the institutional levels. It is the responsibility of the Institutional Ethics Committee (IEC) to scrutinize and approve the clinical trial before the study begins and also to conduct periodic reviews of the progress of the trial. A survey by ICMR shows that there are ethics committees in only about 200 institutions. Most research institutions in India, however, either do not have an IEC or there is inadequate representation in it by persons other than those of the medical fraternity. Without a representation of persons from a non-scientific background, the opinion of the IEC is likely to be biased in favour of the study. The clinical research guidelines clearly specify the need for such personnel. Some IECs do not have a regular schedule of meetings, lack standard operating procedures (SOPs) or do not have a proper member representation according to the guidelines (Das, 2009).

The role of regulatory bodies such as the Indian Council of Medical Research in reviewing the conduct of such trials and the functioning of local research ethics committees also needs review. However, things are changing for the better. The ICMR has a Central Ethics Committee on Human Research (CECHR). This committee audits the functioning of these IECs. The recently amended Schedule Y of Drugs and Cosmetic Rules orders the composition of the IEC as per the ICMR guidelines. The DCGI’s office, in collaboration with WHO, ICMR and many committed research professionals, has been conducting training programmes for members of the Ethics Committees across the country (Das, 2009).

**Issue Regarding Prior Agreements and Benefits of Research:** The most recent revisions of the Helsinki Declaration (World Medical Association, 1964), declare that "medical research is only justified if there is reasonable likelihood that the populations in which the research is carried out stand to benefit from the results of the research.” The
proponents of this approach argue that it would avoid unnecessary and curiosity-driven research, as well as undue exploitation of vulnerable populations in underdeveloped communities. These assured availability agreements only apply to a narrow band of drugs, vaccines, and other products. They cannot be readily applied to phase I and II drug trials, nor to vaccine trials and epidemiological and social science research. Another important consideration is the usual time lag before the robustness of research findings can be assured, frequently by replication elsewhere. Given the limited resources for research in India as well as in most developing countries, stringent application of these criteria and guidelines might make it almost impossible to provide such long-term assurances of benefits or availability of products. This would effectively stop much-needed public health and epidemiological research that often generates precisely the information that might influence future public health policy (Bhutta, 2002). The benefits of participation in research should extend beyond the narrow definition of end products, as there may be other significant improvements in the health care system as part of the project.

Issue of Transparency and Effective Monitoring of Clinical Trials: Another concern is the transparency of clinical research in developing countries. Recently there has been growing concern about the publication of clinical trial results (Chan et al, 2004; Dickersin, 1997). This concern pertains to the lack of power the individual researcher has in ensuring that trial results, whether positive or negative, are fully reported. By recruiting between 5 and 20 patients to these trials, the researcher is in effect waiving publication rights, because one cannot independently publish site-specific results with such small numbers.

The most effective antidote to this problem may be through registration of all clinical trials and making their results available publically. Registration of clinical trials offers other benefits as well, such as safeguarding of patient interests and ensuring greater transparency, accountability and accessibility of clinical trials whereas at the same time also helping to raise the standard of research.

The International Committee of Medical Journal Editors has issued guidelines for investigators with regard to participation in study design, access to data and control over the publication of results (International Committee of Medical Journal Editors, 2009). Protection of publication rights for investigators is necessary for the transparency and integrity of research, yet it is an ongoing area of contention for industry sponsors (Schulman et al, 2002; Davidoff et al, 2001). Investigators in developing countries are generally less experienced and less familiar with these guidelines and, therefore, less likely to have access to trial data or to publish results (Abbas, 2007; Duley et al, 2008).

The DCGI gives the approval for conducting clinical trials in India. How the trial is being conducted or whether anybody is tampering with the data at any point? At present, there is no central monitoring mechanism in place to answer these questions. At present monitoring of clinical trials is done by the representatives of the sponsors or the CROs (Das, 2009).

However, things are better since 2006. The Clinical Trial registry-India (CTRI) has been set up at the National institute of Medical Statistics, ICMR, New Delhi. Several meetings with various stakeholders have been held in an effort to generate consensus as well as to spread awareness regarding the imperative need for clinical trial registration (Pandey et al, 2008).

Research in Resource-Poor Settings Conducted Primarily for Overseas Regulatory Approval: The epidemic of industry-sponsored trials in the country, many with placebo controls, for psychiatric disorders where effective treatments exist, raises the additional question of whether it is ethically correct for clinician-researchers, with limited resources of manpower and time, to participate in these trials that are clearly being conducted solely for regulatory bodies overseas, when there are many unanswered questions of clinical relevance to health care in the region. Financial and other incentives are often a strong inducement for participation, the lack of any new science should raise questions about participation. Some potential researchers might be encouraged to realise that non-industry-sponsored pragmatic trials addressing questions of relevance to mental health care in India, with clinically relevant outcomes, robust clinical design and relatively low costs, are possible to conduct during routine clinical care (Alexander et al, 2004).

Other Issues: To the extent that there is an imbalance between clinical trials in developing countries and the extrapolation of results to populations in developed countries, additional questions arise: What is the nature of the health care delivery
system of the country where the trial was conducted? Do social ecology and the genetic makeup of the study population allow trial results to be generalized to populations in which the treatment will most likely be used? There are compelling evidences which show that geographically distinct populations can have different genetic profiles, and these differences have been shown to be related to the safety and effectiveness of drugs and even medical devices (Goldstein et al, 2004; Larson et al, 2007). Genetic diversity is often not considered in study design and interpretation and in the reporting of trial results.

Positive Aspects of Conducting Clinical Trial and its Globalization: The use of Indians 'for the benefit of the Western world' has extensively been criticized. Before jumping into any ill-informed conclusions, it would be worthwhile to understand the benefits of clinical research (Anaokar, 2002):

1. Patients/study subjects who participate in clinical trials:
   a. Have access to the latest medication or treatment modalities.
   b. Get free medical care, which includes costs of investigations and medicine.
   c. Enter into the trial voluntarily after signing an informed consent.
   d. Are not bound to continue to participate in the trial (The consent can be withdrawn at any time).
   e. Receive more frequent and focused consultations leading to an improvement in the quality of healthcare.

2. Investigators/physicians who conduct clinical trials
   a. Get first hand experience with the most recent drugs.
   b. Get global recognition working on the same platform as other international experts on the project.
   c. Get extensive training in the internationally accepted Good Clinical Practice (GCP) and Good Laboratory Practice (GLP) guidelines.
   d. Get an opportunity for publication.
   e. Have access to the latest medicines for their patients.

3. Sites/Hospitals where the research is conducted:
   a. Get infrastructural development.
   b. Get global recognition.

CONCLUSION

Every scientific intervention has its pros and cons. There are genuine uncertainties regarding some of the controversies that surround the science and ethics of clinical drug trials and there is need for more systematic and culture-specific quantitative and qualitative research to inform the design of future trials, especially among vulnerable populations in resource-poor countries. Inspite of all the present pitfalls, there are various advantages by clinical trial studies in India. A fine balance between ethical issues and scientific demands in conducted trials which benefit patients, help in building infrastructure and expertise and also serve the genuine purpose of pharmaceutical companies is required. Need of the hour is government regulated/supervised monitoring agencies with suitable quality control at the inception of the studies as well as checks and balances at appropriate levels with timely audits.

The regulatory system is being polished. Laws are being amended to facilitate the entry of global clinical trials. Massive and concerted efforts are on to train research professionals and increase the base of investigators and supporting staff. These initiatives will hopefully bring improvement in the current situation. In brief, India is already off the starting blocks and gearing up for an inundation of clinical research trials. This will ensure the timely conduct and completion of the clinical trials and at the same time generate high quality data for international submission.

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SOCIAL SUPPORT OF FEMALE SEX WORKERS
Lakshmana G., Dhanasekarapandian R., Atiq Ahmed

ABSTRACT

Background: The present study was an attempt to describe the social support among the female sex workers. The objectives were to study the socio demographic characteristics and the level of perceived social support available for the female sex workers. Method: After the informed consent, seventy female sex workers were randomly selected from the study population. The Multidimensional Scale of Perceived Social Support (MSPSS) and a semi structured socio demographic schedule were used to collect the data. Results: The mean age of the study group was 32 years (SD ±7.358 years) and majority (90%) of them being married and living with other partners (35.7%). MSPSS found that about 43% of female sex workers had less total social support. They believed that their social support in terms of family, friends and significant others was less and not adequate. High family support (M=3.9607) was noted among the female sex workers in the age group of 37 years and above, whereas low family support was noted among the other age groups (F=3.169, p<0.05). Significant positive correlation was found (r=0.334, p<0.01) between age of the respondents and their family support. Conclusion: The organizations, professionals and welfare workers who are actively working in this field need to focus in this area and may try to enhance their social support.

Key Words: Social support, sex workers, female sex workers

INTRODUCTION

Sex workers (SW), usually referred to as prostitutes, have occupied an anomalous position in societies throughout history. SWs are generally regarded as a social category, as women who do not adhere to sexual and other behavioural norms, pitied or despised and are excluded from mainstream society. This social exclusion renders the prostitutes vulnerable to exploitation (Dandona et al, 2005; Orchard, 2007). Sex work in India has been in existence since time immemorial. In ancient India society permitted it in one form or other and also gave it a religious sanction. The Vedas and two great epics, the Ramayana and the Mahabharata, are replete with reference to sex work. Kautilya, in his Arthashastra, refers sex workers as an indispensable factor in royal courts. By about 300 A.D. the Devdasi system came into existence. It may be observed that prostitution existed in the Pre-Vedic age and it be styled as promiscuity. When the institution of marriage became legalized and was also sanctified, sex work became clearly demarcated (Chattopadhyay et al, 1994).

The number of full-time equivalent prostitutes in a typical area in the United States during 1970-1988 was estimated at 23 per 100,000 populations (0.023%), of which fraction some 4% were under 18 years (Potterat et al, 1990). National estimated numbers of FSW in different countries were: United Kingdom 0.5% (2000), France 0.2% (2000) Latin America’s Dom Republic 1.8% (2001), and in Haiti 2.0% (2001) (Vandepitte et al, 2006).

Enough hard data is not available, which can provide credible information on size estimation of female sex workers in India. There are few studies which made an attempt to estimate the number of sex workers. In Mumbai around 14,108 FSW were there which was 0.5% of the total population of the city in 2001 (Family Health International, 2001). In Karnataka, the mapping estimated about 75,800 persons engaging in high-risk activities and 47% of this estimate was from Bangalore city (Ramesh et al, 2006).

The sex work world is an underworld, because women living in this world do not have the same rights as other people. The
prostitute is a woman whom no one trusts. Her word is not worth anything. The society discriminates against women but doubly discriminates against female sex workers. The sex workers living conditions are unhealthy and not as normal population in the society. They are almost out of the reality as they face discrimination everywhere (Chudakova et al, 2002; Chattopadhyay et al, 1994; Orchard, 2007). The women land up in this profession of sex work, not out of choice but by chance or force and child trafficking (Chudakova et al, 2002; Orchard, 2007).

Social support is the physical and emotional comfort given to a person by his/her family, friends, co-workers and others. In the present study, it is the perceived support and help received by the female sex workers from the family members, friends and significant others like relatives, neighbours and others who are helpful to them. Social support is very important in one's life. Sex workers differ from normal population in terms of occupation and nature of life style. They are the ones who are literally excluded from the society and not getting adequate social support from family, friends and from significant others (Mundle et al, 2005; Ward & Day, 2006). In the society, this is the least and an awful work. The sex workers come to this profession, as a last option, being ready to face all the consequences. The studies also say that the family support has been lower among this population (Dandona et al, 2005; Paradeshi & Bhattacharya, 2006). The studies demonstrate that the lack of international and local protection renders sex workers vulnerable to exploitation in the workplace and to harassment or violence at the hands of employers, law enforcement officials, clients and the public (Shannon et al, 2009; Swendeman et al, 2009). The need for sex worker protection, including occupational health and safety provisions, is of particular relevance in the current context of HIV/AIDS. Sex workers without rights in their place of work are uniquely vulnerable to infection with HIV and other sexually transmitted diseases, as they routinely lack the information, materials or authority to protect themselves and their clients. (Shannon et al, 2009). This social exclusion renders the prostitutes vulnerable to exploitation.

Few studies also demonstrated that by enhancing social support by increasing social interactions outside work, addressing environmental barriers of economic vulnerabilities by increasing savings and alternative income and empowerment strategies can significantly impact a broader range of factors to reduce vulnerability and prevention to HIV/STDs (Swendeman et al, 2009; Hong et al, 2008).

Social support is less studied among this population. The aim of the professionals who are working in this field is to bring down the epidemic of HIV/AIDS, but the social support is seldom spoken about or considered (Hong et al, 2007; Panchanadeswaran et al, 2010; Mundle et al, 2005; Ward & Day, 2006). In this present study an attempt was made to describe the social support among female sex workers. This would help the health professionals, state administration, the health workers and NGOs who are working in this area to pay attention and increase the social support of the sex workers.

**MATERIALS AND METHODS**

The aim of the study was to study the social support among the female sex workers. The objectives were to study the socio demographic characteristics and the level of perceived social support available to the female sex workers. The study followed descriptive research design and females engaging in commercial sex work in Bangalore city constituted the universe of the study.

Identifying a female sex worker and scheduling an interview with them is a difficult task as the area of study is very sensitive. To collect the research data an organization which is working for the welfare of the female sex workers was randomly selected for the present study. The female sex workers visit the organization on certain occasions like general meetings for female sex workers, celebration of festivals and sometimes for group and individual counseling. The researcher visited the organization between the months of July, 2007 and September, 2007 for data collection. A total sample size of seventy female sex workers were selected by lottery method from the study population and their written consent was obtained.

The data was collected with the help of a semi-structured socio demographic schedule prepared to assess the background information of the subject, and the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet and colleagues (1990) was administered. MSPSS is a 12 item, self rated measure of social support as perceived by an individual. The MSPSS evaluates social support from family,
friends and significant others and qualifies the degree to which respondents perceive support from each of these three sources. It has very good internal consistency with reported alpha coefficients of 0.91 for the total score and 0.90 to 0.95 for each of the three subscales. Scores are derived by summing the individual items and dividing by the number of items. A score can thus be obtained for the total scale as well as for each of the three subscales. Higher scores indicate higher perceived social support. Thus, the scale reveals minimum score as 1 and maximum score as 7 for both the total scale, as well as for each of the three subscales. This was classified further as 1 to 3 as poor perceived social support, 3.1 to 5 as moderate perceived social support and 5.1 to 7 as good perceived social support. The data was analyzed with the help of Statistical Package for the Social Sciences (SPSS, version 10).

RESULTS

Socio-demographic details

Age distribution of the female sex workers ranged from 17 to 44 years, the mean age was 32 years (SD±7.358 years) and half of the female sex workers (50%) fell under the age group of 27 to 36 years. Results showed that about 38.6% of female sex workers were illiterate and 34.4% were educated up to high school and above (M=4.96, SD±4.59). One third of the female sex workers were living with (35.7%) others and only about 10% of the female sex workers were living with children. The findings of the present study indicated that majority (72.9%) of the female sex workers were using one or other substance and alcohol (58.6%) was the most frequently used substance. Nearly half (42.9%) of the female sex workers were engaged in their work in different places and not restricted to one place. About 30% of the female sex workers were in brothels. Study indicated that majority (82.9%) of the family members of the female sex workers' did not know about their sex work. Majority (90%) of the female sex workers had the knowledge of HIV/AIDS. A significant number of female sex workers (40%) had been in sex work from five to ten years.

Table 1: Socio-demographic characteristics of the respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in Years)</td>
<td>17 to 26</td>
<td>16</td>
<td>22.9</td>
</tr>
<tr>
<td></td>
<td>27 to 36</td>
<td>35</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>37 and above.</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td>Religion</td>
<td>Hindu</td>
<td>60</td>
<td>85.8</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td>Christian</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td>Education</td>
<td>Illiterate</td>
<td>27</td>
<td>38.6</td>
</tr>
<tr>
<td></td>
<td>Basic Schooling</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>High School</td>
<td>16</td>
<td>22.9</td>
</tr>
<tr>
<td></td>
<td>PUC and Above</td>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married</td>
<td>25</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>Unmarried</td>
<td>7</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>13</td>
<td>18.6</td>
</tr>
<tr>
<td></td>
<td>Separated</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>Number of children</td>
<td>0</td>
<td>11</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>17</td>
<td>24.3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>25</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>13</td>
<td>18.6</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>5.7</td>
</tr>
<tr>
<td>Living status</td>
<td>Family of Origin</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td>With Husband &amp; Children</td>
<td>25</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>Only children</td>
<td>7</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>Alone</td>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>With Others</td>
<td>25</td>
<td>35.7</td>
</tr>
<tr>
<td>Area of residence</td>
<td>Urban</td>
<td>52</td>
<td>74.2</td>
</tr>
<tr>
<td></td>
<td>Semi Urban</td>
<td>9</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>9</td>
<td>12.9</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Alcohol</td>
<td>41</td>
<td>58.6</td>
</tr>
<tr>
<td></td>
<td>Nicotine abuse</td>
<td>9</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>No substance abuse</td>
<td>19</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>Multiple substance abuse</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Sex work practice area</td>
<td>Street</td>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>Lodge</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>Brothel</td>
<td>21</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>Other Places</td>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>All the Above</td>
<td>30</td>
<td>42.9</td>
</tr>
<tr>
<td>Family knowledge of their sex work</td>
<td>Yes</td>
<td>12</td>
<td>17.1</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>58</td>
<td>82.9</td>
</tr>
<tr>
<td>Knowledge of HIV/AIDS in respondents</td>
<td>Yes</td>
<td>63</td>
<td>90.0</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>7</td>
<td>10.0</td>
</tr>
<tr>
<td>Duration of practice of sex work (in Years)</td>
<td>0 - 5</td>
<td>20</td>
<td>37.2</td>
</tr>
<tr>
<td></td>
<td>5 to 10</td>
<td>28</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>10 to 15</td>
<td>8</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>15 and Above</td>
<td>8</td>
<td>11.4</td>
</tr>
</tbody>
</table>
Social Support of the Female Sex Workers

In order to assess the social support of female sex workers, MPSSS was used. The results revealed (Table no 2) that about 42.9% (M=3.42, SD±1.47) of female sex workers had overall less social support. They believe that their social support in terms of family, friends, and significant others was less and not adequate. Only about 14.3% of female sex workers had overall good and adequate social support. About one third (34.3%) of the respondents had less and inadequate friends support (M=4.04, SD±1.88). In family support more than half (54.3%) had less and inadequate support (M=3.13, SD±1.71). In significant others support half (50%) of the respondents had less support (M=3.18, SD±2.12).

Table 2: Respondents Perceived Social Support

<table>
<thead>
<tr>
<th>Domains</th>
<th>Frequency</th>
<th>%</th>
<th>Mean±SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Others support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less</td>
<td>35</td>
<td>50.0</td>
<td>3.19±2.13</td>
</tr>
<tr>
<td>Moderate</td>
<td>18</td>
<td>25.7</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>17</td>
<td>24.3</td>
<td></td>
</tr>
<tr>
<td>Family Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less</td>
<td>38</td>
<td>54.3</td>
<td>3.14±1.72</td>
</tr>
<tr>
<td>Moderate</td>
<td>23</td>
<td>32.9</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>12.9</td>
<td></td>
</tr>
<tr>
<td>Friends support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less</td>
<td>24</td>
<td>34.3</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>15</td>
<td>21.4</td>
<td>4.04±1.88</td>
</tr>
<tr>
<td>High</td>
<td>31</td>
<td>44.3</td>
<td></td>
</tr>
<tr>
<td>Total social support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less</td>
<td>30</td>
<td>42.9</td>
<td>3.42±1.48</td>
</tr>
<tr>
<td>Moderate</td>
<td>30</td>
<td>42.9</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>14.3</td>
<td></td>
</tr>
</tbody>
</table>

To find significant differences among various dimensions of social support based on the socio-demographic variables, one way ANOVA was computed (Table-3). It was found that significant difference existed in family support among different age groups. High family support (M=3.96) was noted among the female sex workers in the age group of 37 years and above, whereas low family support was noted among the age group of 17-26 years and 27-36 years (F=7.670, p<0.01). High significant level of others social support was noted among the workers engaged for five to ten years of sex work (4.21) group, whereas less was noted among the other groups (F=4.557, p<0.01). The results revealed that there was no difference between the domains of social support and education, marital status, living status, area of residence, substance use, and practice area, knowledge of HIV/AIDS and duration of practice (p>0.05).

Table 3: Difference on Social Support Based on Various Socio-demographic Variables

<table>
<thead>
<tr>
<th>Social Support</th>
<th>N</th>
<th>Mean±SD</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family support &amp; age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-26 Yrs.</td>
<td>16</td>
<td>2.86±1.75</td>
<td>3.169</td>
<td>.048</td>
</tr>
<tr>
<td>27-36 Yrs.</td>
<td>35</td>
<td>2.82±1.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 37 Yrs.</td>
<td>19</td>
<td>3.82±1.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant others support &amp; number of children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>11</td>
<td>3.66±2.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>17</td>
<td>4.07±2.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>2.62±1.88</td>
<td>2.634</td>
<td>.042</td>
</tr>
<tr>
<td>3</td>
<td>13</td>
<td>3.40±2.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1.02±0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family’s knowledge about family member’s sex work &amp; social support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>4.33±1.07</td>
<td>7.670</td>
<td>.007</td>
</tr>
<tr>
<td>No</td>
<td>58</td>
<td>2.90±1.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant others support &amp; duration of practice of sex work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 Yrs.</td>
<td>26</td>
<td>2.64±1.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10 Yrs.</td>
<td>28</td>
<td>4.21±2.13</td>
<td>4.557</td>
<td>.006</td>
</tr>
<tr>
<td>10-15 Yrs.</td>
<td>8</td>
<td>1.78±1.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥15 Yrs.</td>
<td>8</td>
<td>2.81±2.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To find significant differences among various dimensions of social support based on the socio-demographic variables, one way ANOVA was computed (Table-3). It was found that significant difference existed in family support among different age groups. High family support (M=3.96) was noted among the female sex workers in the age group of 37 years and above, whereas low family support was noted among the age group of 17-26 years and 27-36 years (F=7.670, p<0.01). High significant level of others social support was noted among the workers engaged for five to ten years of sex work (4.21) group, whereas less was noted among the other groups (F=4.557, p<0.01). The results revealed that there was no difference between the domains of social support and education, marital status, living status, area of residence, substance use, and practice area, knowledge of HIV/AIDS and duration of practice (p>0.05).
Pearson's correlation (Table 4) was computed to find the relationship between age, education and duration of practice with sub domains of social support. Significant positive correlation existed ($r=0.334$, $p<0.01$) between age of the respondents and their family support; similarly positive significant correlation was found ($r=0.277$, $p<0.05$) between family support and the duration of sex work. Age, education and duration in the work with other sub domains of social support were not found to be significantly correlated.

**DISCUSSION**

**Socio-demographic details:** The mean age of the respondents was 32 years (SD±7.35 years). The majority of the female sex workers were illiterate and due to lack of vocational training they had chosen this sex work. Chattopadhyay et al (1994) in the study found 93% sex workers were illiterate and tended to have most recently worked as domestic workers, casual labourers or farm laborers. Study showed that about 55% of them did not have their life partner and they did not want to live with their children due to social stigma and it was observed that most of them would not like to keep their children along with them. Jeal et al (2004) in their study reported that female sex workers were less likely to have their own children at home.

The findings of the present study indicated that majority (72.9%) of the female sex workers were using one or other substance and alcohol (58.6%) was the most frequently used substance. Ward and Day (2006) in their study found out that 64% of the female sex workers were addicted to either one or other form of substance. Cohan et al (2006) in their study found that 49% of the female sex workers were using tobacco and 40% were using illicit drugs. The present study indicated that majority (82.9%) of the family members of the female sex workers did not know about their sex work. This is due to the intensive suppression of this information of the female sex workers to the family members. Chattopadhyay et al (1994) in a study reported that majority of the sex workers families would not have knowledge about their sex work, they would be working in urban areas and 50% of them had friendly relations at their native place. Majority (90%) of the female sex workers had the knowledge of HIV/AIDS. Desai et al (2003) in their study reported that 94.9% had been using condom with the clients. Mundle et al (2005) reported that 65.1% of the sex workers had the proper knowledge about HIV/AIDS and other sexual diseases.

**Social support of the female sex workers:** The results revealed that about 42.9% of female sex workers had less overall social support. They believed that their social support in terms of family, friends and significant others was less and not adequate. Half of the respondents had less and inadequate friends support. Generally, friends support would be more for everyone. But in female sex workers due to their nature of work their friends were not so much supportive to them. In significant others support, half of the respondents had less support. It showed that people were afraid to support them when there was a need. In family support more than half (54.3%) of the respondents had less and inadequate support. The major observation of the present study is that once the family comes to know that their family member is involved in sex work, it tries to avoid her and stop relationship, because it is disrespectful for them in the society. In an earlier study on sex workers Chattopadhyay et al (1994) reported that the key factors for these women adopting this type of life style were primarily due to lack of family support and inability to provide for themselves due to poverty, illiteracy, and family disharmony. Dandona et al (2005) reported that sex workers had lower social support and lower income. Paradeshi and Bhattacharya (2006) observed in their study that sex workers were having less family support.

There was significant difference between the overall social support and knowledge of family, indicating that where the family members knew about their family members sex work, there the high total social support (4.26) was noted, which was moderate, whereas less was noted among those where families were unaware of their nature of work. In general the family members' awareness about the work is nominal and in the present study the awareness of the family members knowledge was only 17.1% and a large number of family members (82.9%) were unaware about their sex work. Yet another observation was that once the sex workers moved out of their primary family, they would have an illegitimate partner who had been considered as their family member. The particular finding needs to be researched further with larger sample size. Previous studies report that female sex workers come to this profession due to poor economic and social support and would be doing their profession in the absence of family member's knowledge because once they come to know this profession, they would not allow them to
continue in the family and most families would send out their member from the family (Dandona et al, 2005; Chattopadhyay et al, 1994).

The results revealed that there was no difference between the domains of social support and education, marital status, living status, area of residence, substance use, area of work, knowledge of HIV/AIDS and duration in job. This perhaps indicated that the social support and these factors were not related to each other.

Pearson’s correlation (Table 4) showed that significant positive correlation existed \((r=0.33, p<0.01)\) between age of the respondents and their family support. Similarly positive significant correlation was found \((r=0.27, p<0.05)\) between family support and the duration of sex work. This could be due to the usual chance factor for any aged person with higher family support. However, this finding needs to be reconfirmed in the future qualitative research analysis. Age, education and duration of practice with other sub domains of social support were not found to be significantly correlated.

CONCLUSION

The current study was an attempt to study the social support of female sex workers. In the wake of HIV/AIDS so many studies had been carried out in order to study their general health, sexual diseases, attitude about sex etc., there are limited studies related to social support. In the present study, an attempt was made to study this. The study revealed that female sex workers social support is extremely low and there is a need to focus on this. The organizations, professionals and welfare workers who are actively working in this field need to focus on this area and should try to enhance their social support. If they get adequate social support it will ultimately enhance their quality of life.

REFERENCES


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ADDRESSING PSYCHOSOCIAL DEFICITS OF PATIENTS WITH SCHIZOPHRENIA THROUGH COGNITIVE REHABILITATION

Amrita Kanchan¹, Nawab Akhtar Khan², Amool Ranjan Singh³

ABSTRACT

Background: Decline in cognitive abilities has been shown to lead to an increased risk of difficulty in performing instrumental activities of daily living. Individuals with schizophrenia have consistently been found to exhibit cognitive deficits which have been identified as critical mediators of psychosocial functional outcomes. This study has therefore been planned to remediate the cognitive deficits i.e., attention and memory of the chronic patients with schizophrenia and to decipher the effect of remediation on social functioning and activities of daily living. Method: Five chronic patients with schizophrenia were selected through purposive sampling technique and grouped into one for a single group pre-test and post-test research design and intervened by cognitive rehabilitation. Wilcoxon sign rank test was performed to find the significance of the test results. Result: The results revealed that cognitive rehabilitation improved the social behaviour and daily functioning of the individuals. Conclusion: Overall results indicate the need for mental health professionals to incorporate cognitive rehabilitation as a treatment adjunct for patients with schizophrenia along with pharmacological treatment in order to bring out overall improvement in the patients.

Keywords: Schizophrenia, attention, memory, cognitive rehabilitation

INTRODUCTION

Cognitive impairment is increasingly recognized as a core component of schizophrenia and recently has become a potential treatment target. Traditionally, cognitive impairment was thought to be evident only in elderly deteriorated patients with schizophrenia. However, recent researches and evidence have accrued to challenge this view. It is becoming evident that marked cognitive impairment is, in fact, the norm and often pre-dates the illness. It is often assumed that it is the emotional and psychotic symptoms that make it difficult for a person with schizophrenia to function in everyday life; however, research indicates that cognitive deficit is the reason of poor functional outcome of patients of schizophrenia along with dramatic negative effect on the real-world functioning of patients, hindering their recoveries and even increasing the duration of their hospitalization (Medalia, 2009; Keefe & Hawkins, 2005).

Most common deficits are pertaining to deficits in attention (Nuechterlein et al, 1994), memory (Clare et al, 1993), processing speed and problem-solving ability (Goldman-Rakic et al, 2004). These deficits have been shown to negatively influence multiple aspects of daily functioning (Medalia & Revheim, 2002). When people have trouble paying attention, remembering and thinking clearly, it has an impact on their ability to function in the community, at school, at work, in relationships and to manage one’s own illness. These daily living tasks require an ability to attend and remember, to identify goals and the steps to reach them, to prioritize and organize activities and to integrate feedback to monitor performance (Medalia & Revheim, 2002). Deficits in attention and memory disrupt patients’ ability to follow a conversation, complete a course of therapy, holding a job, difficulty in remembering appointment, carrying out their personal belongings, organizing their living space along with other difficulties such as maintaining a budget or negotiating public transportation. Such impairment results in total disruption of social functioning, employment and quality of life (Keefe & Hawkins, 2005). In a way such deficits are associated with greater problems in living an independent life. Researchers
have also demonstrated that people with mental illness who have cognitive deficits are more likely to be unemployed or have a lower occupational status even when they have no active symptoms. Thus, cognitive dysfunction is increasingly being recognized as a major contributor to the adaptive impairment seen in most patients with schizophrenia.

McGurk et al (2000) found a significant correlation between cognitive tasks, verbal learning, memory and adaptive skills, negative symptoms, at follow-up also but positive symptoms were not correlated with impaired adaptive skills. These results were consistent with the finding of Harvey et al (1999) who found that instrumental and social skills deficits were more strongly correlated with cognitive impairments than with the severity of under-controlled behaviour. Each of the cognitive measures was correlated with global social-adaptive deficits, with minimal variation in the magnitude of correlations. Harvey et al (1998) also revealed that cognitive functioning and adaptive functioning both declined over the follow-up period, whereas there was no change in schizophrenic symptoms. Changes in cognitive functioning accounted for 25% of the variance in adaptive decline, whereas the baseline severity of cognitive impairment and schizophrenia symptoms were not correlated with adaptive decline. These data indicate that cognitive decline may predict deterioration in overall functional status and imply that treatment of cognitive impairment might have a beneficial effect on global functional status. Great deal of research is carried on to remediate such cognitive deficits. Pharmacological intervention in itself is not yet successful in ameliorating impaired cognition in schizophrenia (Harvey & Keefe, 2001; Keefe et al, 2006). Cognitive rehabilitation in turn has been found effective in remediating such cognitive deficits (Silverstein et al, 2005; Lewis et al, 2003). The mechanism of cognitive improvement resulting from cognitive rehabilitation is not well understood. However, one randomized controlled study has shown dorsolateral prefrontal cortical activity changes following cognitive remediation therapy in patients with schizophrenia of at least two years duration (Wykes et al, 2002). After reviewing the current literature regarding the effectiveness of cognitive rehabilitation and its association with independent living skill, the need was realized to cognitively rehabilitate the patients with schizophrenia and to bring out all round improvement in them and thus the present study was targeted to remediate attention and memory of patients with schizophrenia and to evaluate the effect of remediation on social functioning and daily living skills.

**MATERIALS AND METHODS**

**Sample Characteristics:** Based on the purposive sampling technique, five chronic patients diagnosed as schizophrenia according to ICD-10 DCR criteria, who were falling in the age range of 30-40 years and who were cooperative and educated up to secondary level, were selected from different wards of Ranchi Institute of Neuropsychiatry and Allied Sciences (RINPAS), Ranchi. Informed consent of the patients was taken prior to the intervention. Patients with any co-morbid psychiatric illness, who were left handed, who had active psychopathology or those having a history of alcohol or substance dependence, head injury, seizures, hearing and visual impairment or severe physical illness in near past were excluded from the study. Appropriate ethical approval was obtained from the participants in the study.

**Design:** A single group pretest and posttest research design was used for the present study. All five participants were grouped in one and they were tested on all the essential tests before the intervention. Subsequently they were given rehabilitation training for more than two months followed by a post-test assessment of all the same tests which were administered in the pre-test design.

**Tools for Pre-Test & Post-Test Assessment of the Patients**

Tools Used for Screening the Patients: A proforma designed for the study was used to collect socio-demographic and clinical data. Brief Psychiatric Rating Scale (BPRS, Overall & Gorham, 1962) was administered to rule out any active positive symptoms i.e., delusions and hallucinations in the patients, participants with score of three and below were chosen for
further assessment. This was followed by the administration of Handedness Scale (Annett, 1970) in order to include only right handed patients.

**Tools Used for Cognitive Assessment:** Main tools used to assess sustained attention and selective attention of the patients was Letter Cancellation Test (Dixit, 1997) and Stroop Neuropsychological Screening Test (Trenerry et al, 1989) respectively. PGI Memory Scale (Pershad & Verma, 1990) was used to assess the memory and Wisconsin Card Sorting Test (WCST, Heaton et al, 1993) was used to assess the executive functioning of the patients.

**Tools Used to Assess Functional Performance of the Patients**

Social Behaviour Assessment Inventory (Stephens & Arnold, 1992) was used to assess the social behaviour of the patients in four dimensions i.e., environmental behaviour, interpersonal behaviour, self-related behaviour, and task related behaviour. The Functional Status Questionnaire (Jette et al, 1986) was used for functional assessment of the patients seen in primary care. It provides information on the patient’s physical, psychological, social and role functions. A Checklist for Basic Living Skills was specially designed for the present study in order to assess basic living skills of the patients, particularly personal hygiene such as toileting, brushing teeth, bathing, hair care, nail care, eating habits and house-keeping. Living skills were defined as those skills which help the patient to take care of themselves without depending upon others. Four point rating was used to assess the patient’s performance. Score of 1 suggests that the patient cannot perform skill by self correctly and the score of 4 suggests that the patient performs the skill without any help.

**Tools used for Intervention:** Parente and Anderson-Parente (1991) model of training attention, concentration and rehearsal as well as Parente et al (1999) strategies of training working memory were used for remediating cognitive deficits in the patients.

**Intervention:** Group approach was used to remediate attention and memory of the patients. Attention remediated programme consisted of paper pencil techniques such as counting sounds, shape matching, line bisection, finding odd character, shape search, random paced words with category, random dot to dot picture, figure-background discrimination, counting backward, forward counting, pattern construction, category sorting, maze learning etc. Similarly, working memory of the patients was remediates through strategies proposed by Parente et al (1999) such as the length and direction of instruction were shortened, fast rate of speaking especially in instructional settings was avoided, over learning and extra rehearsal were provided, part-whole learning strategy was used. Other techniques employed for remediating immediate memory were digit repetition, word repetition, sentence repetition, two and three step body part command, digits backward etc. Few card games were mainly employed to provide maintenance rehearsal. Game 1 was targeted to reduce Interference Resistance. Game 2 was used for rehearsing multiple sets. Game 3 was targeted to strengthen the spatial rehearsal of the patients. Game 4 was targeted to rehearse the changing sets. Game 5 helped in rehearsing sequence. Many internal aids such as first letter cues, visual imagery, story method, etc., and external aids such as notebooks and calendar were used to provide rehearsals. Positive reinforcements were provided to the patients on effective performance.

**Statistical Analysis:** Statistical package for Social Sciences (SPSS-13) was used for statistical analysis. Non-parametric statistics for two related samples i.e., Wilcoxon sign rank test was used to compare the results of the group before and after cognitive remediation training.

**RESULTS**

The results of the study revealed that patients with schizophrenia had significant deficits pertaining to selective attention, sustained attention, memory and executive functioning. The results also revealed that there was significant improvement found in these deficits after cognitive rehabilitation.
Table 1 reveals the socio-demographic and clinical profile of the patients selected for the study. The group consisted of patients who were mostly in the age range of 30 to 35 years, all were males and almost all were educated up to 12th standard, three out of five were married and all except one were Hindu, all were belonging to semi-urban background and mostly were residing in a nuclear family. The table also reveals that the patients had onset of illness after 25 years of age and also they had chronic illness with duration of approximately six years except one who had history of more than seven years.

On Letter Cancellation Test, the results revealed that the performance of the patient increased in post-test pertaining to number of words cancelled increased in the post-test (Z=2.023, p<0.05). Following intervention, error of omission (Z=2.023, p<0.05) and error of commission (Z=2.060, p<0.05) reduced significantly. These findings suggest that sustained attention of the patient increased significantly after the intervention.

Results of Stroop Neuropsychological Screening Test reveals that patients had shown significant improvement after the intervention targeted to increase attention with discrimination (Z=2.032, p<0.05). Results of PGI Memory scale revealed that all the patients had intact remote memory, recent memory, verbal retention for similar pairs and recognition capacity prior to intervention, the illness thus had no effect on these dimensions whereas mental balance, attention and concentration, delayed recall, immediate recall, verbal retention for dissimilar pair and visual retention of all the patients were severely impaired. The results revealed that there was significant improvement in the performance of the patients after the intervention that was targeted to remediate mental balance (Z=2.041, p<0.05), attention and concentration (Z=2.041, p<0.05), delayed recall (Z=2.070, p<0.05), immediate recall (Z=2.060, p<0.05), verbal retention for dissimilar pair (Z=2.023, p<0.05) and visual retention (Z=2.032, p<0.05). On Wisconsin Card Sorting Test, the score displayed poor executive capability of the patients in pretest score, this can be seen through the number of categories completed, number of errors made, perseverative errors and the number of conceptual level of responses. Assessment done after the intervention revealed that although there was no significant improvement found in perseverative errors and number of categories completed, there was significant improvement found in the number of errors made (Z=2.023, p<0.05), number of correct responses made (Z=2.023, p<0.05) and number of conceptual responses made (Z=2.032, p<0.05).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Patient Group (Total 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>30-35 Years</td>
<td>3</td>
</tr>
<tr>
<td>35-40 Years</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
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</tr>
<tr>
<td>Male</td>
<td>5</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>10-12 Years</td>
<td>3</td>
</tr>
<tr>
<td>12 Years and Above</td>
<td>2</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
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</tr>
<tr>
<td>Married</td>
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</tr>
<tr>
<td>Unmarried</td>
<td>2</td>
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<tr>
<td><strong>Religion</strong></td>
<td></td>
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<tr>
<td>Hindu</td>
<td>4</td>
</tr>
<tr>
<td>Muslim</td>
<td>1</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
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<tr>
<td>Semi Urban</td>
<td>5</td>
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<tr>
<td><strong>Family type</strong></td>
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</tr>
<tr>
<td>Joint</td>
<td>2</td>
</tr>
<tr>
<td>Single</td>
<td>3</td>
</tr>
<tr>
<td><strong>Age of onset of illness</strong></td>
<td></td>
</tr>
<tr>
<td>15-24 Years</td>
<td>1</td>
</tr>
<tr>
<td>25 Years &amp; Above</td>
<td>4</td>
</tr>
<tr>
<td><strong>Duration of illness</strong></td>
<td></td>
</tr>
<tr>
<td>4-6 Years</td>
<td>4</td>
</tr>
<tr>
<td>7 Years &amp; Above</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2 reveals the score of social behaviour of the patient before and after the intervention i.e., cognitive remediation which involved many tasks such as patient's altruistic and cooperative behaviour, completing tasks on time, etc. The scores revealed that all the patients had deficits in social behaviour prior to the treatment and there was significant improvement found in social functioning of these patients after the intervention. Many environmental changes were observed in the patients such as throwing trash in proper container, using eating utensils properly, disposing unwanted food properly, etc. Interpersonal behaviour of the patients also improved, this involved behaviour such as complying with request of authority, greeting others, maintaining eye contact.
while speaking, helping others and initiating conversation with others. Self related behaviour changes were also observed such as expressing feelings, responsible attitude by coming on time for therapy, using toilet facilities properly, keeping hands and face clean, etc. It was also found that patient's task related behaviour also increased, this involved completing home work assignment, participating in group discussion in therapy session, listening properly the instructions, following instructions and quality of work also improved.

Table 2: Analysis of Social Behaviour Assessment Inventory before and after the Intervention

<table>
<thead>
<tr>
<th>Areas of Assessment</th>
<th>Patients</th>
<th>WSRT$^*$ Z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P1</td>
<td>P2</td>
</tr>
<tr>
<td>Environmental Behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Test</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Post Test</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Interpersonal Behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Test</td>
<td>82</td>
<td>72</td>
</tr>
<tr>
<td>Post Test</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>Self Related Behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Test</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>Post Test</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Task Related Behaviour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Test</td>
<td>52</td>
<td>60</td>
</tr>
<tr>
<td>Post Test</td>
<td>40</td>
<td>48</td>
</tr>
</tbody>
</table>

$^*$Wilcoxon Sign Rank Test

**p<.01

Table 3: Analysis of Functional Status Questionnaire and checklist for basic living skills before and after the Intervention

<table>
<thead>
<tr>
<th>Areas of Assessment</th>
<th>Patients</th>
<th>WSRT$^*$ Z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P1</td>
<td>P2</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
<td>53</td>
<td>61</td>
</tr>
<tr>
<td>Post test</td>
<td>81</td>
<td>85</td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
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<td>64</td>
</tr>
<tr>
<td>Post test</td>
<td>89</td>
<td>85</td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
<td>64</td>
<td>51</td>
</tr>
<tr>
<td>Post test</td>
<td>84</td>
<td>81</td>
</tr>
<tr>
<td>Role Function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre test</td>
<td>54</td>
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</tr>
<tr>
<td>Post test</td>
<td>81</td>
<td>86</td>
</tr>
<tr>
<td>Checklist for basic living skills (Personal Hygiene)</td>
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</tr>
<tr>
<td>Pre test</td>
<td>128</td>
<td>114</td>
</tr>
<tr>
<td>Post test</td>
<td>132</td>
<td>122</td>
</tr>
</tbody>
</table>

$^*$Wilcoxon Sign Rank Test

*p<.05

DISCUSSION

The overall results of the study indicated that patients with schizophrenia had significant cognitive deficits. The deficits were prominent in the patients even when they were under continuous pharmacological treatment. These deficits were accompanied by deficits in psychosocial functioning of these patients. The results also revealed that cognitive rehabilitation is an effective mode of treatment for remediating cognitive deficits such as attention and memory of the patients. The patients had severe attention and memory deficits prior to the intervention and there was significant improvement found in these deficits after cognitive rehabilitation training. The results also depicted that significant improvement was found in the social behaviour and daily living skills of patients even when no attempt was made to improve them. The improvement in such psychosocial deficits might be the result of improvement apparent in the cognitive deficits of the patients.

In the current scenario, much of the rehabilitation of patients with schizophrenia is focused on social competence i.e., to increase the role functioning in the community; this is due to marked deficit of these patients in social competence (Bellack et al, 1994). This is obvious from the result of the present study also, that chronic patients with schizophrenia had
decreased social competence and had marked difficulty in relating with the world and had poor skills to perform in coordination with others. This is consistent with findings of Kern et al (1995), Bowen et al (1994) and Corrigan et al (1994). It is also recognized that cognitive impairment is a core feature of schizophrenia. In the last few years, extensive research has suggested that the cognitive deficits frequently associated with schizophrenia are not merely a consequence of psychotic symptoms or its treatment, but rather a distinct dimension of the illness (Keefe & Hawkins, 2005). Thus, there appear to be an association between cognitive deficits and adaptive deficits of these patients. This is apparent from the results that the patients had marked cognitive deficits along with deficits in social functioning and daily living skills. Green (1996) in his study also found an association between social competence and measures of verbal memory and attention. Mueser et al (1991) and Bellack et al (1994) found relationships between verbal memory and social problem solving, social skill and response to social skills training. Therefore, cognitive dysfunction is increasingly being recognized as a major contributor to the adaptive impairment seen in patients with schizophrenia (McGurk et al, 2000; Harvey et al, 1998).

This is clearly found in the study that social behaviour of the patients improved after cognitive rehabilitation which was mainly targeted to remediate attention and memory of the patients and no effort was done to improve social functioning of the patients. The results reveal that social behaviour of the patients drastically changed after the intervention. Because the attention and memory in itself is related to global improvement in the patient which covers planning, organizing and execution of these improvements, ultimately it improves the overall quality of life of the patient. The results thus reflect that cognitive remediation improves patient’s social competence, social skills as well as their basic living skills which is basic goal of any rehabilitation programme. This is consistent with the findings of Delahunty et al (1993) and Penades et al (2003) who also concluded that enhanced independent living skills are associated with increase in cognitive functions. The results also revealed that the role functioning of the patients improved after the intervention which is important for vocational aspect of the patient. McGurk and Mueser (2004) have shown that vocational skills improve with an increase of cognitive functions. Mogami (2007) found Neuropsychological Educational Approach to Remediation (NEAR) programme effective for patients with schizophrenia in remediating cognitive deficits; he also found that functional performance (independent living skill, vocational skill and social problem solving skill) of the patient improved following cognitive remediation.

Thus, overall test findings indicated that cognitive remediation provided a better scope for patients with schizophrenia to show improvement in their global functioning. Therefore, all round rehabilitation of the patient would only be successful when the patients have sufficient cognitive development related to attention, memory and executive functioning. Hence, any psychosocial rehabilitation of chronic patients with schizophrenia should incorporate cognitive rehabilitation as a treatment adjunct as it directly or indirectly strengthens the patient and motivate them for better performance i.e., greater the attention span better the patient’s performance. But the overall results of the study were overshadowed by the small sample size of the group and lack of follow-up of these patients and therefore there is a need to have more research in this particular direction.

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ABSTRACT

Background: Social determinants play a crucial role in determining an individual's mental health status. Female sex workers, being a marginalized group, can be expected to have a generally lower mental health status and the role of social determinants could be crucial in shaping their mental health. This paper examines the levels of mental health status among female sex workers in Mumbai and then analyzes the effect of various social determinants on mental health. Methods: Using purposive snowball sampling, 150 female sex workers were interviewed for gathering data on background details and social determinants while General Health Questionnaire (GHQ-28) was used to assess the mental health status. Bivariate analysis was used to study the association between various characteristics and possible determinants on mental health. The effect of social determinants was further studied using multiple regression analysis. Results: Results showed that high proportion of female sex workers had low mental health status. Many of them were probably suffering from some sort of mental illness. Multivariate analysis showed that social determinants, especially violence and discrimination significantly affected the mental health of the female sex workers. Conclusion: Mental health status observed in female sex workers is low, raising concerns about the welfare of this marginalized group. This study highlights the importance of focus on mental health in interventions directed at the welfare of female sex workers.

Key words: General Health Questionnaire, female sex workers, social determinants, mental health

INTRODUCTION

World Health Organization's report on social dimensions on mental health focuses on the social aspects of mental health. The report considers mental health as the capacity of an individual, group and the environment to interact with one another in such a way that it promotes subjective well being with optimum development and use of mental abilities. This view stresses upon the importance of the social capital for the well being of an individual, thereby acknowledging the pivotal role of social factors in shaping the mental health of an individual (WHO report on Women's Mental Health, 2000).

There are many societal constructs which interact with other determinants like age, family structure, education, occupation, income, social support and a variety of behavioural determinants of mental health. Socio-cultural and environmental factors including community and social support, stressors, life events, personal behaviour and skills as well as availability and access to health services, all are seen to play a vital role in determining mental health status in a population.

Gender as a social construct indicates the relative position of women in the societal hierarchy as well as the experiences and prejudices faced in daily life. In a patriarchal society, it is possible that women are more vulnerable and experience more depression and anxiety as compared to men (Patel et al, 2006). It is noted that the percentage of women suffering from depression is higher than men (Patel et al, 2006). Societal position has a positive relationship with mental health of the individual, the health outcomes being unfavourable amongst people who are socially underprivileged; health outcomes are twice poorer among those in the lowest social position as compared to those in the highest social position (Dohrenwend, 1990; Bartley & Owen, 1996; Weich et al, 2001). There is also
a link between low income and mental health amongst women in urban areas (Blue et al, 1995).

The importance of women's health in general and mental health in particular and the need to study their mental health and associated factors is recognized in recent years (Chatterjee & Sharan, 2007). The understanding of women's health should not be confined to child bearing and reproductive health but must also include the impact of poverty, unpaid work, employment status, poor wages, inequality at work place, physical, emotional and sexual violence at work place and home. Women lack autonomy, decision making power and access to independent income; many other aspects of their lives and health will necessarily be outside their control including their susceptibility to communicable diseases (Okojie, 1994).

As noted earlier, there is a relationship between the social class and mental health status of women. Female sex workers are from lower socioeconomic status and experience a low societal status due to the societal moral judgment. Female sex workers are often seen as undesirable elements of the society. They are thought to be one of the major reasons behind the spread of many infections (Dandona et al, 2006). This leads to stigma and discrimination against female sex workers which in turn outcasts the sex worker community from the society (UNAIDS, 2001). Commercial sex work being quasi-legal in India, makes it difficult to be chosen as an occupation. Moreover, it does not fall under the public health framework or occupational health, thus creating a barrier to this marginalized section to access and utilize the public health services. Since last decade, there is increased concern over the spread of Human Immuno-Deficiency Virus (HIV) and on the need to control Sexually Transmitted Diseases (STD) among female sex workers, the primary focus being the protection of health of clients.

As in the case of their physical health, there is no importance given to the mental health status of female sex workers due to the existing societal discrimination against them. Existing literature shows that the mental health status of sex workers is poor and is influenced by the prevailing societal factors, and this low mental health status often lead to suicides (Suresh et al, 2009; Patel et al, 2006). Yet, there is dearth in studies in the Indian context to assess and understand the mental health status of female sex workers. This paper attempts to examine the level of mental health status of female sex workers in Mumbai with an aim to understand the role of social determinants in shaping their mental health status.

MATERIAL AND METHODS

This study was carried out at the red-light areas of Kamatiipura, Turbhe Store, in Mumbai among brothel based female sex workers. Since female sex workers are a group who are relatively inaccessible for research, it was decided to use non-probability sampling to select the respondents. Snowball sampling method was adopted for sample selection; female sex workers aged above 18 years and below 35 years were included in the study. The study covered 150 female sex workers.

The data gathered pertained to socio-demographic background, work history, living conditions, experiences in brothels and the physical abuse and discrimination at workplace. For assessing mental health status, General Health Questionnaire (GHQ-28) (Goldberg & Hiller, 1979) was used. GHQ contains 28 items and has been divided into four subscales, each containing seven items measuring Somatic Symptoms, Anxiety, Social Dysfunction and Severe Depression in an individual.

Bivariate analysis was used to examine how the mental health situation differed according to various background characteristics as well as with some of the identified social determinants. Logistic regression was used to further examine the effect of various factors on mental health.

RESULTS

Socio-demographic characteristics of the participants (Table1) revealed that 61.3 percent were from India and 38.7 percent were from Nepal; the high proportion of women from Nepal indicated the quantity of human trafficking from neighbouring country of Nepal. The age range of selected respondents were
from 18 to 28 years with a significant share (43.3%) in the age group 22 to 25 years. Majority of the respondents were Hindus (88.7%). Most of the respondents were educated in some form or the other and only 14.7 percent of the total respondents were illiterate. One-third of the respondents were married (33.3%) and a majority were either separated (deserted by husband) or widowed (20.7% and 20% respectively). The percentage of never married female sex workers was pretty low (6.7%).

Table 1: Socio-demographic characteristics of female sex workers

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country of origin</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>92</td>
</tr>
<tr>
<td>Nepal</td>
<td>58</td>
</tr>
<tr>
<td>State of origin</td>
<td></td>
</tr>
<tr>
<td>Karnataka</td>
<td>11</td>
</tr>
<tr>
<td>Tamilnadu</td>
<td>13</td>
</tr>
<tr>
<td>Andhra pradesh</td>
<td>19</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>9</td>
</tr>
<tr>
<td>Orissa</td>
<td>3</td>
</tr>
<tr>
<td>West Bengal</td>
<td>37</td>
</tr>
<tr>
<td>Bihar</td>
<td>1</td>
</tr>
<tr>
<td>Kathmandu</td>
<td>58</td>
</tr>
<tr>
<td>Age (in years)</td>
<td></td>
</tr>
<tr>
<td>18 to 21</td>
<td>58</td>
</tr>
<tr>
<td>22 to 25</td>
<td>65</td>
</tr>
<tr>
<td>26 to 28</td>
<td>27</td>
</tr>
<tr>
<td>Places Visited</td>
<td></td>
</tr>
<tr>
<td>Karnataka &amp; Maharashtra</td>
<td>35</td>
</tr>
<tr>
<td>Goa &amp; Tamilnadu</td>
<td>55</td>
</tr>
<tr>
<td>Andhra pradesh &amp; West Bengal</td>
<td>37</td>
</tr>
<tr>
<td>Others</td>
<td>23</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>1 to 7</td>
<td>90</td>
</tr>
<tr>
<td>8 to 12</td>
<td>38</td>
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<td>22</td>
</tr>
<tr>
<td>Marital status</td>
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</tr>
<tr>
<td>Married</td>
<td>50</td>
</tr>
<tr>
<td>Separated</td>
<td>29</td>
</tr>
<tr>
<td>Deserted</td>
<td>31</td>
</tr>
<tr>
<td>Widowed</td>
<td>30</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
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<td>6</td>
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<tr>
<td>Christian</td>
<td>6</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2 presents information on living conditions, patterns of mobility, discrimination, and physical abuse; these were considered as some of the important social determinants of mental health in this paper. It was evident that the living conditions in which the female sex workers were living were far from desirable. The study explored the pattern of mobility during the six months period prior to interview. It can be seen that while 20% of the female sex workers moved within the city, a large majority said that they made inter-state movement for sex work. The degree of mobility shows that close to 50% of the sex workers moved three times or less while 40% reported that they moved four to six times during the last six months. The highest extent of mobility (moving seven or more times) was reported by 9% of the sex workers. Ten percent of the sex workers said that their clients beat them up whereas 27% said that their regular partner physically abused them. Other forms of ill-treatment by clients were reported by 18% of the sex workers. More than 90% of sex workers felt that people considered them as untouchables. The experiences of violence and abuse as well as the perceptions about their social status would have a detrimental effect on their mental health.

Table 2: Living conditions, mobility pattern and abuse faced

<table>
<thead>
<tr>
<th>Aspect</th>
<th>(N)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living Conditions</td>
<td></td>
</tr>
<tr>
<td>Inadequate Water Supply</td>
<td>(119) 79.3</td>
</tr>
<tr>
<td>Lack of Toilet Facility</td>
<td>(99) 66.0</td>
</tr>
<tr>
<td>Dirty surroundings</td>
<td>(120) 80.0</td>
</tr>
<tr>
<td>Pattern of Mobility</td>
<td></td>
</tr>
<tr>
<td>Moving within city</td>
<td>(30) 20.0</td>
</tr>
<tr>
<td>Moving outside state</td>
<td>(120) 80.0</td>
</tr>
<tr>
<td>Moved out up to 1 to 3 times</td>
<td>(76) 50.7</td>
</tr>
<tr>
<td>Moved out up to 4 or 6 times</td>
<td>(61) 40.7</td>
</tr>
<tr>
<td>Moved out up to 7 or more times</td>
<td>(14) 9.3</td>
</tr>
<tr>
<td>Physical abuse</td>
<td></td>
</tr>
<tr>
<td>Beating by client</td>
<td>(135) 90.0</td>
</tr>
<tr>
<td>Beating by regular partner</td>
<td>(109) 72.7</td>
</tr>
<tr>
<td>Discrimination</td>
<td></td>
</tr>
<tr>
<td>Ill-treating by clients</td>
<td>(123) 82.0</td>
</tr>
<tr>
<td>Treated as untouchables by people</td>
<td>(136) 90.7</td>
</tr>
</tbody>
</table>

Table 3 presents the results of bivariate correlation of various determinants on the mental health of female sex workers. It is clear from the table that the socio-demographic characteristics and living conditions did not significantly alter the mental health status. This result could be due to very high level of GHQ overall and sub-score. It is generally held that a GHQ score of above 24 indicates the possibility of caseness meaning that the person could be suffering from some sort of mental illness. In the sample it was found that the mean GHQ score was above 62 indicating that female sex workers had a very low mental health status irrespective of their background characteristics. The degree and pattern of mobility showed some association with the GHQ sub-scores.
### Table 3: Bi-variate analysis of background characteristics, living conditions, pattern of mobility and GHQ

<table>
<thead>
<tr>
<th>Selected social determinants</th>
<th>GHQ A</th>
<th>GHQ B</th>
<th>GHQ C</th>
<th>GHQ D</th>
<th>GHQ 28</th>
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<td></td>
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</tr>
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<td>16.40</td>
<td>16.94</td>
<td>62.21</td>
</tr>
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<td>0.48</td>
<td>0.52</td>
<td>0.14</td>
<td>0.56</td>
<td>0.85</td>
</tr>
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<td><strong>Age</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 25</td>
<td>14.68</td>
<td>14.22</td>
<td>16.34</td>
<td>17.01</td>
<td>62.26</td>
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<tr>
<td>26 to 28</td>
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<td>16.03</td>
<td>16.96</td>
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<td>16.92</td>
<td>62.70</td>
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<td>0.34</td>
<td>0.12</td>
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<td>Adequacy of water supply</td>
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<td>14.38</td>
<td>16.48</td>
<td>16.93</td>
<td>62.16</td>
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<tr>
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<td>16.23</td>
<td>17.02</td>
<td>62.18</td>
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<tr>
<td>T test P</td>
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<td>0.79</td>
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<td>14.62</td>
<td>16.17</td>
<td>17.00</td>
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<td>15.67</td>
<td>16.34</td>
<td>17.01</td>
<td>62.01</td>
</tr>
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<td>16.24</td>
<td>16.95</td>
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<td>15.40</td>
<td>14.23</td>
<td>15.96</td>
<td>17.13</td>
<td>62.73</td>
</tr>
<tr>
<td>T test P</td>
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<td>0.01</td>
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<td>0.29</td>
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<td><strong>Pattern of mobility</strong></td>
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<td>61.93</td>
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<tr>
<td>T test P</td>
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</tr>
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<td></td>
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</tr>
<tr>
<td>No</td>
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<td>14.07</td>
<td>16.24</td>
<td>17.15</td>
<td>62.16</td>
</tr>
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<td>Moved up to 7 or more times</td>
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<td></td>
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<td>14.63</td>
<td>14.57</td>
<td>17.14</td>
<td>15.57</td>
<td>62.21</td>
</tr>
<tr>
<td>T test P</td>
<td>0.47</td>
<td>0.53</td>
<td>0.00</td>
<td>0.00</td>
<td>0.96</td>
</tr>
<tr>
<td>Moving within city</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.60</td>
<td>14.23</td>
<td>16.43</td>
<td>17.20</td>
<td>61.93</td>
</tr>
<tr>
<td>T test P</td>
<td>0.01</td>
<td>0.98</td>
<td>0.46</td>
<td>0.48</td>
<td>0.64</td>
</tr>
<tr>
<td>Moving out of state</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>15.40</td>
<td>14.23</td>
<td>15.96</td>
<td>17.13</td>
<td>62.73</td>
</tr>
<tr>
<td>T test P</td>
<td>0.00</td>
<td>0.98</td>
<td>0.10</td>
<td>0.64</td>
<td>0.29</td>
</tr>
</tbody>
</table>

(P-Value<0.05; OR: OddsRatio; n=150)

Table 4 reveals that physical abuse and discrimination had significant influence on mental health. Those who had been abused by client or regular partner were likely to have a worsened mental health status. Similarly those who were ill-treated by clients or those who thought they were treated as untouchables by the mainstream society had a higher GHQ score i.e., lower mental health status.

### Table 4: Bi-variate analysis of Physical abuse and discrimination with GHQ

<table>
<thead>
<tr>
<th>Selected social determinants</th>
<th>GHQ A</th>
<th>GHQ B</th>
<th>GHQ C</th>
<th>GHQ D</th>
<th>GHQ 28</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical abuse</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical abuse by client</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.81</td>
<td>14.24</td>
<td>16.31</td>
<td>17.01</td>
<td>62.39</td>
</tr>
<tr>
<td>T test P</td>
<td>0.00</td>
<td>0.76</td>
<td>0.33</td>
<td>0.85</td>
<td>0.01</td>
</tr>
<tr>
<td>Physical abuse by regular partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.28</td>
<td>14.09</td>
<td>16.31</td>
<td>16.94</td>
<td>61.63</td>
</tr>
<tr>
<td>T test P</td>
<td>0.00</td>
<td>0.68</td>
<td>0.46</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Discrimination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ill-treated by the clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.45</td>
<td>13.86</td>
<td>16.30</td>
<td>17.01</td>
<td>61.64</td>
</tr>
<tr>
<td>T test P</td>
<td>0.00</td>
<td>0.76</td>
<td>0.88</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Treated like untouchables by people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14.73</td>
<td>14.24</td>
<td>16.27</td>
<td>17.05</td>
<td>62.31</td>
</tr>
<tr>
<td>T test P</td>
<td>0.05</td>
<td>0.77</td>
<td>0.82</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

Logistic regression was also carried out with GHQ overall score and sub scores as dependent variables and socio-demographic background, living conditions, degree and pattern of mobility, experience of violence and discrimination as independent variables (Table 5). For the Overall GHQ score (below 60 as reference category), lack of privacy, degree of mobility and experience of physical abuse by clients showed statistically significant effect on mental health status. Analysis with GHQ sub scores also showed more or less similar results except that the educated sex workers had a greater chance of having depression.

(P-Value<0.05; OR: OddsRatio; n=150)
DISCUSSION

Our findings suggest that the lack of privacy at their place of residence and physical violence experienced by the female sex workers (FSWs) at their work place from clients significantly affected the mental health status of the FSWs. Then, majority of the FSWs experiencing mental disorders might be due to physical violence by their clients and also due to presence of dirty surroundings at their place of habitation. Social exclusion of FSWs which denies them the required social support exposes them for physical violence and also pushes them to stay at dingy places. These social determinants are detrimental in determining the individual’s physical, mental and social well being, as FSWs are devoid of these determinants, making them easy prey to mental ailments. Various national welfare programmes are concerned about the control of human immunodeficiency virus (HIV) infection, sexually transmitted diseases (STDs) and about clients’ health. None of the programmes concentrates on social aspects of the FSWs, which is very important to motivate the FSW to participate in current ongoing programmes and also detrimental to the over all well being of the community. By providing these conducive social determinants might help them to come out of the vicious cycle of sex work.

Our finding, residing at dirty surroundings and physical violence leads to mental disorder replicated the findings of Rossler et al (2010) which was done among indoor and outdoor sex workers, albeit, in a different country where the exposure might have varied when compared with a developing country like India. Also, a study done on street based sex workers in Chennai (Suresh et al, 2009) found that physical violence was the determinant leading to suicidal ideations, but our study mainly concentrated on brothel based sex workers.

This study had several weaknesses, first being the lack of random sampling method and limited representation of female sex workers as it was limited only to brothels. Study design being cross sectional, there is risk of confounding and bias factor. At the same time, the study has several strengths; the recruitment strategy used was multiple in nature which was not limited to one strategy, several methods were tried to get appropriate representative samples. As retrospective study design was used, it made it difficult to differentiate precursor and coexisting causes, to be precise, whether participants had poor mental health before entering the sex work was not taken into consideration. This is mostly relevant while considering the social determinants of the sex workers as most of them had some preexisting social determinants. Due to clandestine nature of the sex work it is difficult to make out the characteristics of sex workers. One of the methodological issues with the female sex workers in Mumbai is insufficient knowledge of female sex workers to determine whether samples are representative of the target population. The response rate varied very much depending on the method of recruitment. For example, when individuals were contacted directly at their work place, response was almost nil, but when accompanied by a key person, the response rate was hundred percent. This study included only brothel based female sex

<table>
<thead>
<tr>
<th>Determinants</th>
<th>GHQ A Somatic OR</th>
<th>P-Value</th>
<th>GHQ B Anxiety/Insomnia OR</th>
<th>P-Value</th>
<th>GHQ C Social dysfunction OR</th>
<th>P-Value</th>
<th>GHQ D Depression OR</th>
<th>P-Value</th>
<th>GHQ 28 OR</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socio-demographic characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country of origin(1)</td>
<td>1.23</td>
<td>.63</td>
<td>.67</td>
<td>.37</td>
<td>1.73</td>
<td>.23</td>
<td>.96</td>
<td>.92</td>
<td>1.00</td>
<td>.99</td>
</tr>
<tr>
<td>Age of the respondents(1)</td>
<td>1.10</td>
<td>.85</td>
<td>.61</td>
<td>.36</td>
<td>2.03</td>
<td>.18</td>
<td>.99</td>
<td>.93</td>
<td>.91</td>
<td>.97</td>
</tr>
<tr>
<td>Education (1)</td>
<td>.83</td>
<td>.75</td>
<td>1.01</td>
<td>.98</td>
<td>1.02</td>
<td>.97</td>
<td>3.50</td>
<td>.01</td>
<td>1.22</td>
<td>.77</td>
</tr>
<tr>
<td>Marital status (1)</td>
<td>.76</td>
<td>.55</td>
<td>.87</td>
<td>.76</td>
<td>.79</td>
<td>.63</td>
<td>.99</td>
<td>.98</td>
<td>.90</td>
<td>.85</td>
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<td><strong>Living Conditions</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Adequate water supply(1)</td>
<td>1.39</td>
<td>.51</td>
<td>.74</td>
<td>.57</td>
<td>.73</td>
<td>.58</td>
<td>1.28</td>
<td>.59</td>
<td>.82</td>
<td>.42</td>
</tr>
<tr>
<td>Toilet facility (1)</td>
<td>1.40</td>
<td>.43</td>
<td>.44</td>
<td>.05</td>
<td>1.90</td>
<td>.14</td>
<td>.69</td>
<td>.37</td>
<td>1.39</td>
<td>.51</td>
</tr>
<tr>
<td>Privacy(1)</td>
<td>.61</td>
<td>.42</td>
<td>.49</td>
<td>.23</td>
<td>.83</td>
<td>.78</td>
<td>.75</td>
<td>.91</td>
<td>13.29</td>
<td>.02</td>
</tr>
<tr>
<td>Presence of Dirty surroundings(1)</td>
<td>2.21</td>
<td>.14</td>
<td>.89</td>
<td>.82</td>
<td>.16</td>
<td>.00</td>
<td>1.95</td>
<td>.20</td>
<td>1.27</td>
<td>.70</td>
</tr>
<tr>
<td><strong>Degree and pattern of mobility</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Movement within the city (1)</td>
<td>2.78</td>
<td>.04</td>
<td>1.13</td>
<td>.80</td>
<td>.54</td>
<td>.30</td>
<td>.81</td>
<td>.66</td>
<td>.83</td>
<td>.75</td>
</tr>
<tr>
<td>Moving out for one to three times(1)</td>
<td>1.22</td>
<td>.66</td>
<td>1.97</td>
<td>.14</td>
<td>2.14</td>
<td>.13</td>
<td>.72</td>
<td>.46</td>
<td>.32</td>
<td>.04</td>
</tr>
<tr>
<td>Moving out for four to six times(1)</td>
<td>2.31</td>
<td>.06</td>
<td>.57</td>
<td>.23</td>
<td>2.05</td>
<td>.11</td>
<td>.96</td>
<td>.93</td>
<td>1.26</td>
<td>.65</td>
</tr>
<tr>
<td>Moving out for seven to ten times(1)</td>
<td>.36</td>
<td>.21</td>
<td>.59</td>
<td>.46</td>
<td>.05</td>
<td>.02</td>
<td>11.95</td>
<td>.00</td>
<td>1.91</td>
<td>.50</td>
</tr>
<tr>
<td><strong>Violence at work place</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Physical abuse by clients(1)</td>
<td>.08</td>
<td>.02</td>
<td>.56</td>
<td>.29</td>
<td>.37</td>
<td>.15</td>
<td>2.74</td>
<td>.16</td>
<td>7.82</td>
<td>.00</td>
</tr>
<tr>
<td>Physical abuse by regular partner(1)</td>
<td>7.19</td>
<td>.03</td>
<td>1.93</td>
<td>.23</td>
<td>1.09</td>
<td>.88</td>
<td>.65</td>
<td>.42</td>
<td>26.10</td>
<td>.03</td>
</tr>
</tbody>
</table>

Binary logistic regression for different covariates (independent variables) of GHQ (dependent variable) due to the role of social determinants assessed by the General Health Questionnaire subscales for each disturbance in female sex workers. Bold figures indicate statistical significant (P-Value<0.05; OR: Odds Ratio; n=150)
workers, wherein much more can be contributed if home based and street based female sex workers are included in the study.

CONCLUSION

Mental health of this marginalized section does not get much attention for research and intervention. The fact that the GHQ score found in the study was very high should raise concern among policy makers and practitioners about the mental health status of female sex workers, a highly marginalized group. Among the determinants studied, pattern of mobility, experience of violence and experience or perceptions of discrimination were found to be important determinants of mental health. Various governmental and non-governmental interventions are directed at STDs and HIV and none focuses on other aspects of health, especially mental health. The results of this study suggest that it is imperative to have interventions focusing on mental health of sex workers if bringing this marginalized group into the mainstream society has to be achieved.

The sex work in India is quasi-legal, thus making sex work as degraded and pushing sex workers into dark, thus making them covert, vulnerable and at risk of harassment and violence, compelling them to stay in secluded society. Decriminalization of sex work in India might be a solution, this is seen in case of homosexuals, as this might help them to work without facing any threat and physical violence and discrimination can also be reported. For instance, if sex work is legalized then it might push them to get concealed, as no one will be proud to say that their occupation is sex work, thus making welfare programmes difficult to reach the group.

REFERENCES


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MENTAL HEALTH LITERACY AMONG POST GRADUATE STUDENTS

Naveen Grover¹, Ravikesh Tripathi²

ABSTRACT

Background: Mental Health Literacy (MHL) refers to knowledge and belief about mental disorders. MHL assessment is an important stage in management of mental disorders. The present study was undertaken to assess the MHL in post graduate students who are presumed to have greater access to information regarding mental health. The specific objectives were to assess recognition of mental illness, knowledge and belief about causes and treatments. Method: A sample of 100 postgraduate students was taken from different colleges of Bangalore. The tools used were personal data sheet and case vignettes of depression and schizophrenia. Results: Schizophrenia was identified more frequently as a mental disorder than depression while recognition of depression was more frequent than schizophrenia. Most of the respondents endorsed stress as a cause for mental disorder. Friends and family were considered more helpful in case of mental disorder followed by mental health professionals. Vitamin was endorsed as the most effective treatment of mental disorder while sleeping pill was considered most harmful for treatment of mental disorder. Participants were very optimistic about prognosis and outcome. Conclusions: The study showed that participants had better MHL in comparison to other studies in the field. The study findings highlighted several aspects on which there is a scope for further improving mental health literacy.

Key Words: Mental health literacy, psychoeducation, mental illness, beliefs

INTRODUCTION

Jorm et al (1997a) introduced the term 'mental health literacy' (MHL) and have defined it as "knowledge and beliefs about mental disorders which aid in their recognition, management or prevention". Knowledge about any particular illness determines the individual's future plan and action regarding help seeking behaviour. Recognition of mental illness can influence early detection, help seeking behaviour and communication with health practitioners (Jorm, 2000).

A person's causal attribution regarding mental disorder not only influences but also determines his or her behaviour of seeking treatment and compliance with the therapy. In Malaysia, belief of psychiatric patients in supernatural causes was associated with greater use of traditional healers and poorer compliance with medication (Razali et al, 1996). It has been proposed that greater account should be taken of patients’ views in negotiating the treatment approach. Negative beliefs about medication may lead to failure to seek medical help and lack of compliance with any medication recommended (Fischer et al, 1999). Public beliefs about professional help may also affect the help-seeking of others (Dew et al, 1991). So, the views of significant others about treatment may also be influential in seeking professional help.

In the past, studies have reported that the lay public, including the educated urban group, are largely uninformed about the various aspects of mental health and the information possessed by them remains uncrystallized. Prabhu et al (1984) had reported in their review that "there is a lack of awareness about available facilities to treat the mentally ill and a pervasive defeatism exists about possible outcome after therapy". People differ from mental health experts in their beliefs about the causes of mental disorders and the most effective treatments. Attitudes which hinder recognition and appropriate help-seeking are common. Much of the mental health information most readily available to the public is misleading (Jorm, 2000).

To know public understanding and response toward mental illnesses, different groups of people have been studied such as general public (Prabhu, 1983), physicians (Gautam, 1974), students (Sinha & RoyKishore, 1973) and school teachers (Basu, 1992) at different points of time in India. Much has happened in the field of mental health in India during the last decade in terms of increase in number of health professionals, better availability of services through the implementation of National Mental Health Program (NMHP) and involvement of non-governmental organizations (NGO's) for enhancing awareness. With rapid advancement in technology in recent
years, the awareness is also spreading to district and sub district levels. Despite these advances, there is hardly any published empirical study on MHL from India in the last decade. In the overall management of mental disorders, MHL assessment is one of the first important steps. Thus, looking at the neglect of MHL in the recent past in India, a need was felt to study MHL. It is assumed that students are exposed to internet and other media and hence have greater access to information. In this background, it would be interesting to examine the MHL of students. Thus, the present study was planned to assess the MHL in post graduate students.

MATERIAL AND METHOD

Methodology: The aim of the present study was to study the MHL among post graduate (PG) students. The specific objectives were to assess the recognition of mental disorder, knowledge and beliefs about causes of mental disorder and knowledge and belief about treatment and prognosis. During the time frame of the study, permission was obtained from two major colleges in the Bangalore city that run multiple courses at undergraduate as well as postgraduate levels. The sample for the study consisted of 100 PG students from different PG departments in these two colleges, who met the inclusion and exclusion criteria. Students currently pursuing post graduation, who could write and read in English, were included whereas mental health professionals and students pursuing post graduation in psychology and social work were excluded from the study.

Research tools: The following research tools, all in English language, were used in the current study:

1. A personal data sheet was prepared to collect information regarding socio-demographic details of the participants. It included details such as name, age, gender, education, subject of specialization and presence of psychiatric illness in self and family.

2. Vignettes: Jorm et al (1997a) in their study on MHL had utilized two vignettes, one that described a person with depression and another that described a person with schizophrenia. The vignettes were developed based on ICD-10 criteria (WHO, 1992). These two vignettes were examined in the pilot phase of this study for their suitability for use with Indian participants. These vignettes were given to two mental health professionals with more than five years of clinical and research experience for expert ratings of suitability and suggestions for revision. Based on their comments, wordings of the two descriptions were modified for making these appropriate for use in the Indian context. The PG students were shown the modified versions of the two vignettes. After being shown the vignettes, respondents were asked the following questions with multiple answer options given:

“What would you say, if anything, is wrong with Rita / Suraj ?”

The response options given were as follows:

For identification: mental illness, physical illness, both and don't know.

For recognition: depression, schizophrenia, stress related, self-esteem related, hypertension, physical and don't know.

The rest of the questions were aimed at determining the respondents' knowledge of and views about:

• Various people who could help (whether each category of person was likely to be helpful, harmful or neither for the person described). The categories mentioned were: counsellor, psychiatrist, psychologist, General Practitioner (GP), Psychiatric Social Worker (PSW), clergy, alone, chemist, friend and family.

• A range of possible treatments (whether each treatment was likely to be helpful, harmful or neither for the person described). The categories mentioned were: vitamin, antidepressant, sleeping pill, antipsychotic, antibiotic, tranquilizer and pain reliever.

• Knowledge of likely prognosis. The categories mentioned were: fully improved, not improved, partly improved and others please specify.

Procedure: The study was approved by the Departmental Protocol Review Committee. Before the data collection, the principal and the head of the departments were contacted and were explained about the purpose of the study. Students were selected for the study on the basis of the above mentioned inclusion and exclusion criteria. The nature of the study was explained to the students and those who were willing to participate were included in the study. Written informed consent was obtained from the students. Tools were administered in groups of 15-20 students each under close supervision of the investigator. The total time taken for each group was approximately 45-60 minutes. At the end of the each session, clarifications or doubts, if any, were addressed
by the researcher. The study was conducted in two phases, the pilot study and the main study.

**Pilot study:** In the pilot phase, five students were selected on the basis of inclusion and exclusion criteria for administration of the tools. The aims of the pilot study were to familiarize the researcher with the items of the scale and scoring, to check that the items of the scale can be comprehended by respondents, to assess the approximate amount of time necessary for the administration of the tools and to incorporate the changes in main study.

**Main study:** The data collection period of the main study extended from October, 2007 to December, 2007. Total of 150 students were selected for the study. Out of these, data from 50 participants had to be discarded because of incomplete responses.

**Ethical issues:** All subjects were explained about the purpose, objectives and the procedure of the study. Confidentiality was assured to the participants. The study did not disrupt the academic schedule of the students.

**RESULTS**

Table 1: Demographic Profile of the sample (N=100)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
<th>44</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital status</td>
<td>Unmarried</td>
<td>Married</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Background</td>
<td>Urban</td>
<td>Rural</td>
<td>74</td>
<td>26</td>
</tr>
<tr>
<td>Mental health problem (Self)</td>
<td>Absent</td>
<td>Present</td>
<td>97</td>
<td>3</td>
</tr>
<tr>
<td>Mental health problem (Family)</td>
<td>Absent</td>
<td>Present</td>
<td>90</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 1 shows that in the study sample, there were more females than males (56 females and 44 males). Majority (90%) of the participants were unmarried. In this sample, 74% participants belonged to urban background and remaining 26% belonged to rural background. In response to an item in the personal data sheet, three percent of the respondents mentioned that they had suffered from a ‘mental illness’ at some point of time in their life. It needs to be noted that this may not correspond with the actual prevalence of psychiatric illnesses in the study sample but is likely to be influenced by the respondents’ notions about mental illness as well as their willingness to report. In the present study 10% of the participants reported a history of mental disorder in the family.

Table 2: Perception about medications

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Vitamin</td>
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<td>79</td>
<td>19</td>
</tr>
<tr>
<td>Antidepressant</td>
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<td>49</td>
<td>25</td>
</tr>
<tr>
<td>Sleeping pills</td>
<td>22</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Pain reliever</td>
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<td>11</td>
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</tr>
<tr>
<td>Antibiotic</td>
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<td>34</td>
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<tr>
<td>Tranquilizer</td>
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<td>44</td>
</tr>
<tr>
<td>Antipsychotic</td>
<td>26</td>
<td>25</td>
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</tbody>
</table>

Responses on the case vignettes showed that 70% participants identified schizophrenia as a mental illness whereas depression was identified as a mental illness by 50% of the participants. Forty three percent respondents correctly recognized depression whereas 16% respondents had correctly recognized schizophrenia (Figure-1). In the present study, 75% respondents rated stress as a cause for depression, and 65% respondents rated stress as a cause for schizophrenia (Figure-2). Figure 3 and 4 summarize the distribution of responses with regard to helpful and harmful person for each condition. The most commonly mentioned helpful person in case of both the vignettes was ‘close friends’ followed by ‘family’, ‘counsellor’, ‘psychiatrist’ and ‘psychologist’ respectively. Vitamin was considered most helpful for depression (79%) and schizophrenia (75%), followed by antidepressant and antipsychotic (Table-2). Figure-5 shows that respondents were found to be highly optimistic (50-70%) about the prognosis and outcome of the mental illness.
Fig 2: Lay public’s perception of the most important cause for the development of schizophrenia and depression (unlabeled vignette)

Fig 3: Lay public’s perception of the most helpful people for the depression (unlabeled vignette)

Fig 4: Lay public’s perception of the most helpful people for the Schizophrenia (unlabeled vignette)

Fig 5: Prognosis and outcome of mental illness

DISCUSSION

Identification and recognition of mental disorder:
Identification is one’s ability to identify an illness as a mental illness, whereas recognition is one’s ability to correctly name the particular mental illness. Majority of the participants (70%) identified schizophrenia as a mental illness whereas depression was identified as a mental illness by 50% of the participants. This indicates that identification of schizophrenia vignette was easier than that of depression vignette. One of the reasons why schizophrenia vignette was more easily identified as a mental disorder could be that social and occupational impairments were more prominent in the schizophrenia vignette. It seems that when a person’s behaviour is socially disruptive and impaired then it is more likely to attract public’s attention and is more likely to be identified as a mental disorder. The findings of the present study go in concordance with previous studies, in terms of low identification of depression as a mental disorder than that of schizophrenia vignette. Link et al (1999) found that schizophrenia was identified by 88% respondents and depression by 69% respondents. Jorm et al (1997a) found that schizophrenia was identified by 84% respondents as a mental disorder and depression was identified by 72% respondents. However, in comparison with the above studies, the identification percentages were lower in the present study for both depression (50%) and schizophrenia (70%) vignettes.
The sample for the present study had PG students drawn from an Indian city whereas the samples in the other two studies were drawn from the general population which could explain the differences in levels of exposure to information on mental illness in the younger and older/general adult samples. Further, socio-cultural factors across nations may partly explain the differences observed between findings of the present study as compared to other studies which had used a vignette based methodology.

Thirty nine percent respondents endorsed the view that depression is "both a mental and a physical disorder". Similarly, 19% respondents endorsed the view that schizophrenia is "both a mental and a physical disorder". When we combine the frequencies of two kinds of responses to the vignettes namely (a) it is a mental disorder and (b) it is both a mental and a physical disorder, it indicates that the respondents actually had high percentage (89% depression vignette and 89% schizophrenia vignette) of identification of the vignettes as describing a mental illness. To bring down the stigma attached to mental illness, these respondents could have added physical aspect to the illness identified (Raguram et al, 1996), thus, identifying it as both mental and physical illness.

In the present study, 43% respondents correctly recognized depression whereas 16% respondents correctly recognized schizophrenia, which indicates that depression was more readily recognized than schizophrenia. This finding is consistent with other studies which show that recognition of depression is better than that of schizophrenia (Jorm et al, 2005; Lauber et al, 2005; Wright et al, 2005; Salah & Adel, 2005). One reason why depression was more easily recognized could be because depression is a commonly used terminology in day to day life, to describe sadness or any mild behavioural disturbance.

The recognition of mental disorder was high in the present study as compared to other studies which have been carried out in developing countries (Salah & Adel, 2005; Kausar, 2005). One possible reason could be that the study sample was highly educated and most of them belonged to urban area. Education and area of residence showed a linear association with correct diagnosis, where in being more educated and living in cities resulted in better identification of the disorder and ability to name the disorder correctly (Kausar, 2005).

In our study, majority of the respondents rated stress as a major cause for both vignettes. This finding is consistent with other researches which indicate that public has often ranked social environment, particularly recent stressors, as a cause for schizophrenia and depression (Link et al, 1999; Jorm et al, 1997a; McKeon & Carrick, 1991; Angermeyer & Matschinger, 1996; Srinivasan & Tara, 2001; Dietrich et al, 2004; Angermeyer & Matschinger, 2003). Perceiving stress as an important cause for mental disorder goes with the media attention (e.g. print and electronic media) given to the problem of stress in India. Also, stress is a common word used by lay public to describe the origin of multiple problems.

Very few respondents endorsed genetic factors as a cause for mental disorder. In contrast, recent studies done in the West have reported genetic factors as a cause for mental disorder (Link et al, 1999; Dietrich et al, 2004; Schomerus et al, 2006). This indicates that there is a need for enhancing awareness about multiple factors including genetic factors that play an important role in etiology of psychiatric illnesses.

Knowledge and beliefs about treatment and prognosis: In the present study, the most commonly mentioned help for the both vignettes was 'close friends' followed by 'family', 'counsellor', 'psychiatrist' and 'psychologist' respectively. This finding is in contrast to the findings reported in Western literature where GPs are considered more helpful for mental disorder than other professionals (Jorm et al, 1997a; Nakane et al, 2005; Angermeyer et al, 1999). This finding could be understood in the light of differences assumed in the inherent fundamental values of Eastern and Western cultures. The two fundamental values that clearly differentiate between Eastern and Western cultures are 'individualism' and 'collectivism'. In countries with collectivist culture, family and friends are rated more helpful for mental health problems (Jorm, 2005). India is
also a country with collectivist culture (Markus & Kitayama, 1991) and this could be one of the reasons why people rated friends and family more helpful in the present study.

The population of this study has shown poor literacy in terms of pharmacological awareness. This is in contrast to their high identification and recognition of mental disorder as discussed earlier. The results showed that Vitamin was considered more helpful for depression (79%) and schizophrenia (75%), followed by antidepressant and antipsychotic. This finding is similar to what has been reported in the literature (Angermeyer & Matschinger, 1996; Jorm et al, 1997a). One can speculate that vitamin is commonly known to the general public and this might be one of the reasons why respondents have suggested vitamin as an effective treatment. In the present study, antidepressants were considered as helpful by 49% of the respondents and harmful by 26% of the respondents for the depression vignette. In case of the schizophrenia vignette, 26% of the respondents considered antipsychotic to be helpful whereas 31% rated it to be harmful. One of the possible reasons for some respondents to consider medication as harmful could be the negative attitude toward treatment and its side effects. Studies show that treatments specifically associated with psychiatrists are viewed negatively by the public, with more people believing that they are harmful than helpful (Jorm et al, 1997b). Anecdotal evidence would support the conclusion that such beliefs are widespread. The reasons given by the public for their negative views of psychotropic medication are perceived side-effects such as dependence, lethargy or brain damage, and the belief that the treatments deal only with the symptoms and not the causes (Angermeyer et al, 1993; Priest et al, 1996; Fishcher et al, 1999).

In the present study, respondents were found to be highly optimistic about the prognosis and outcome of the mental illness in comparison to available evidence. This is similar to the high levels of optimism regarding prognosis reported in the literature (Jorm et al, 1997a; Salah & Adel, 2005). Recent evidence suggests 20%-30% of all schizophrenia patients are able to lead somewhat normal lives. Twenty to thirty percent continue to experience moderate symptoms and 40%-60% remains significantly impaired. Depressive disorders have about 50% chance of recovering in the first year, the percentage of patients recovering decreases with passing time (Sadock, & Sadock, 2007). Optimism, to a certain extent, is good for the outcome of any health problem but unrealistic expectations about prognosis and outcome can lead to delays in help-seeking or experience of frustration and disillusionment with treatment that can interfere with further management of illness.

**Limitation of the study:** The sample selection for the present study was purposive and specific to students from two educational institutions, thus restricting the generalizability of the findings. The survey used closed-ended rather than open-ended questions, which did not provide scope for spontaneous and elaborate responses. Ideally, the sample studied could have been larger but it was not feasible due to time constraints. The analyses were limited to descriptive statistics.

**CONCLUSIONS**

The study findings indicate that there is an urgent need for improving mental health literacy in present day young urban college students in terms of identification and recognition of mental disorder, educating about possible etiological factors, different treatment options available as well as course and prognosis of different mental disorders. Contrary to popular belief that urban social support systems are disintegrating, our study has shown that urban social support systems are still regarded as the important resources for obtaining help in case of mental disorder. It is possible that friends and family are relied upon in the process of approaching for professional help.

Although, it is assumed that the lay public, especially young college youths, use information available through media and internet etc. It does not appear to be sufficient for good MHL. It is likely that availability of and accessibility to information regarding mental health and illness may not result in actually
accessing such information unless there is motivation or inclination to seek such information. The motivation to access/seek such information may be shaped at least partly by the extent to which gaining knowledge about mental health or illness is considered to be important and relevant in some way or another by the lay public and such motivational issues must be taken in account in design and delivery of programs for improving mental health literacy.

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1. Dr. Naveen Grover, M. Phil., Ph.D., Assistant Professor, (Corresponding Author), Institute of Human Behaviour and Allied Sciences,(IHBAS) New Delhi.

2. Mr. Ravikesh Tripathi, Clinical Psychologist & Research Scholar, Department of Mental Health & Social Psychology, NIMHANS, Bangalore.

CORRIGENDUM

In the previous issue of Indian Journal of Social Psychiatry [Vol.26 (1-2), 2010] the research article titled “A study of daily hassles and cognitive emotion regulation on general well being in urban married males and females” was authored by Miss. Anindita Mukherjee, Mr. Atanu Kumar Dogra and Dr. Saugata Basu. On page 67 of the issue, the first and the third authors were wrongly mentioned as Mrs. Anindita Mukherjee and Mrs. Saugata Basu respectively. The editorial team of IJSP deeply regrets this mistake.
QUALITY OF LIFE (QOL) IN SCHIZOPHRENIA:
A COMPARATIVE STUDY ACROSS PATIENTS, THEIR SIBLINGS AND NORMAL CONTROLS

Narendra Kumar Singh¹, Nishant Goyal², Dipanjan Bhattacharjee³,
Basudeb Das⁴, Sayeed Akhtar⁵

ABSTRACT

Background: Schizophrenia is a chronic psychiatric condition often associated with numerous exacerbations and remissions. Prevalence of schizophrenia is around 1% in general population. This disorder imposes significant hardships on patients and their siblings. Schizophrenia is also a challenge to society in the development of public policies that both preserve the public health welfare and enable patients to have decent quality of life. The research was conducted to examine the quality of life of persons with schizophrenia, their siblings and normal controls.

Method: This study was a cross sectional, hospital based study and the sample was selected by purposive sampling technique. This study included 60 individuals (20 patients diagnosed with schizophrenia as per ICD-10, DCR currently in remission for at least six months, 20 siblings of patients with schizophrenia and 20 healthy individuals as normal controls). Age range was 20-45 years for each group. Age, education and family income were matched between siblings and healthy adults. World Health Organization, Quality of Life-BREF was applied on all the participants for the assessment of quality of life. For siblings and normal controls, GHQ-12 was applied and persons who scored less than three in GHQ-12 were included in the study.

Result: Results showed that there was poor QoL in the domain of physical health, psychological health, social relationship and environment in patients with schizophrenia and their siblings as compared to normal controls. However no significant difference was found between patients and their siblings.

Conclusion: Findings indicate poor quality of life of patients with schizophrenia and their siblings as compared to normal controls.

Key Words: Quality of life (QoL), siblings, schizophrenia

INTRODUCTION

The concept of quality of life has appeared in the field of mental health due to influence of bio-psychosocial approach. After the entry of this concept in mental health and psychiatry, modern medicines and somatic treatments are viewed from biopsychosocial perspectives by researchers and clinicians (Awad et al, 1997). Since then, quality of life of mentally ill people has been explained using numerous conceptual constructs which are proposed by different researchers at different times. Items like safety, employment, financial support and family and social relations were identified as primary determinants of quality of life (Lehman et al, 1982; Lehman, 1983).

The concept of ‘quality of life’ has taken a special position in the outcome research of severe mental disorders like schizophrenia. In the last few decades, the assessment of quality of life outcomes has become a major focus of researches evolving around schizophrenia. The quality of life concept has been indoctrinated as ‘a bid to humanize various means of treatment’ by the propagators of the concept. Widely, quality of life can be defined as a person’s sense of wellbeing and satisfaction over his or her life circumstances, health status and his or her access to resources and opportunities (Eack & Newhill, 2007). In numerous researches on quality of life of schizophrenia patients, few elements like ‘negative symptoms and general psychopathology’, ‘side effects of pharmacotherapy’ and the ‘presence of depressive symptoms in the course of schizophrenia’ are considered to be poor predictors in the course of schizophrenia (Kurs et al, 2005). The concept of quality of life becomes more important in schizophrenia because it has chronic and debilitating course and the treatment is mostly non-curative or symptomatic in nature and continues over long periods of time (Solanki et al, 2008). There has not been any consensus on the ‘concept of quality of life’ in schizophrenia among the researchers and clinicians. Some researchers have understood quality of life
as a grossly subjective affair of an individual which he/she can only explain, whereas some others have propagated quality of life as an objective thing. The researchers who are in second league include few measures like housing, health status and frequency of social interactions as the parameters to measure one's quality of life (Diener, 1984; Gill & Feinstein, 1994). Nevertheless, at present, quality of life researchers have come to a consensus that an ideal quality of life measurement instrument should include both facets of quality of life, i.e., objective and subjective dimensions. Quality of life is indeed multidimensional in nature and should accommodate following elements (Eack & Newhill, 2007):

a) A person's satisfaction with his/her life in general or general wellbeing;

b) Observable social and material wellbeing, or objective quality of life;

c) Satisfaction with his/her social and material wellbeing, or subjective quality of life;

d) Health and functional status or health-related quality of life.

Quality of life of patients with schizophrenia has been the focus of outcome researches for few decades but at the same time studies on quality of life of the caregivers and core family members including siblings are not commonly carried out in the west, mainly due to prevailing nuclear family patterns and inadequate secondary social support systems. However, it is also equally important to a patient's quality of life, as without having a sense of satisfaction and contentment over one's own life areas and environment the person can not become an ideal caregiver or support to an ailing person with schizophrenia (Solanki et al, 2008). When a family unit sees its relative developing chronic illness like schizophrenia, the members tend to become hopeless, anxious, worried, socially isolated and they landup in a situation where they can not enjoy the spirits of life. Their social, personal and family repertoires become severely marred by this problem and also their subjective sense of well being tends to go down considerably (Spaniol et al, 1992; MacCarthy et al, 1989; Bulgar et al, 1993). Patients with schizophrenia generally rely on relatives for seeking emotional support, instrumental help and economic assistance. Families of people with schizophrenia often experience excessive amount of intimidation in their life while providing continuous support to their ill relatives as well as coping with the antagonistic situations of having members with long and debilitating mental disorder. Keeping in view the above considerations, current study was designed to assess quality of life in siblings of patients with schizophrenia and to compare the same with patients themselves and age and sex matched normal controls.

MATERIAL AND METHOD

Participants: The sample consisted of 60 individuals. There were 20 patients diagnosed with schizophrenia as per ICD-10, Diagnostic Criteria for Research, (WHO, 1993) in remission for at least six months (using clinical remission criteria), 20 siblings of patients with schizophrenia who were staying and providing continuous care to the respective patients and 20 healthy individuals serving as matched normal controls. For the siblings and normal controls, GHQ-12 was applied and who scored less than three in GHQ-12 were included in the study. Both groups (siblings and healthy normal controls) were appropriately matched as per various socio-demographic parameters (e.g., age, sex, education and family income). The protocol was approved by the Ethics Committee at the institute.

Measures: The measures used in the present study included specially designed socio-demographic and clinical data sheet, WHO-QoL-BREF (Hindi Version) (Saxena et al, 1998) and General Health Questionnaire-12 (Goldberg & William, 1978). WHO-QoL-BREF-26 (Hindi version) was developed by Saxena and colleagues in 1998. It is a structured self report interview which was developed by WHO division of mental health. It consists of 26 items and its purpose is to assess quality of life of an individual. It assesses QoL under four domains which are physical, psychological, social and environmental. Its psychometric properties have been found to be comparable to that of full version WHO-QoL-100. GHQ-12 is 12-item questionnaire which is widely used for screening people for the presence of psychological distress and mental health well being.

Procedure: Informed consent was taken from patients, siblings and normal controls after considering the inclusion and exclusion criteria for the study. After filling of the specially designed socio-demographic data sheet, WHO-QoL-BREF was administered. For siblings and normal control group, GHQ-12 was administered and those who scored less than three were takenup for the study.

Statistical analysis: Kolmogorov-Smirnov test was used to test the normality of data. Data was found to be normally distributed and hence parametric statistics was applied.
Descriptive statistics were used to calculate percentage profiles of different socio-demographic and clinical variables. To compare categorical variables across three groups, Chi-square test was used. One-way Analysis of Variance (ANOVA) was used to calculate the significance of quality of life items and various clinical variables across three groups for continuous variables. Post-hoc analysis was used to compare three groups amongst each other using LSD procedure. Level of significance was taken at <0.05 level.

RESULTS

Table 1A shows the socio demographic profile of the samples selected for the present study. It indicates no significant difference among samples with regards to age, education and family income.

Table 1A: Socio-demographic Profile of the Sample Population:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Patient (N=20)</th>
<th>Sibling (N=20)</th>
<th>Normal Control (N=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>30.0±5.05</td>
<td>32.2±5.35</td>
<td>31.9±5.6</td>
</tr>
<tr>
<td>Education (years)</td>
<td>11.1±2.35</td>
<td>12.6±2.08</td>
<td>11.7±3.05</td>
</tr>
<tr>
<td>Income (Rs/month)</td>
<td>8150±5346.17</td>
<td>-</td>
<td>7400±3377.94</td>
</tr>
</tbody>
</table>

p is not significant

Table 1B shows significant difference among the samples with regards to sex (males outnumbering female) and occupation (most of the patient population was unemployed).

Table 1B: Socio-demographic Profile of the Sample Population:

<table>
<thead>
<tr>
<th>Variables</th>
<th>N=60</th>
<th>F</th>
<th>p</th>
<th>Post Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
<td>13.333</td>
<td>0.001***</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>9</td>
<td>3.948</td>
<td>0.139</td>
<td></td>
</tr>
<tr>
<td>Unmarried</td>
<td>11</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>6</td>
<td>6.563</td>
<td>0.038*</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>14</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domicile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>10</td>
<td>0.133</td>
<td>0.935</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>10</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>15</td>
<td>0.170</td>
<td>0.918</td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Table 2 shows the clinical profile of the patients' group. Mean age of onset of the patients group was 25.2±5.00 years whereas the mean duration of illness was 5.05±1.03 years.

Table 2: Clinical profile of the selected patients' group

<table>
<thead>
<tr>
<th>Variables</th>
<th>MeansSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Onset (in years)</td>
<td>25.2±5.00</td>
</tr>
<tr>
<td>Duration of illness (in years)</td>
<td>5.05±1.03</td>
</tr>
</tbody>
</table>

Table 3 shows the comparison of the quality of life variables among patients group, their siblings and normal controls. It shows that normal controls scored significantly better in all areas of quality of life as compared to other two groups. But between patients' group and their siblings, no significant difference could be seen in all areas of WHO-QoL-BREF.

Table 3: Comparison of quality of life of the Patients with schizophrenia, their siblings and normal controls

<table>
<thead>
<tr>
<th>Variables</th>
<th>N=60</th>
<th>F</th>
<th>p</th>
<th>Post Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health</td>
<td></td>
<td>9.512</td>
<td>&lt;0.001***</td>
<td>a&lt;c,b=a,b</td>
</tr>
<tr>
<td>Psycho. Health</td>
<td></td>
<td>20.417</td>
<td>&lt;0.001***</td>
<td>a&lt;c,b=a,b</td>
</tr>
<tr>
<td>Soc. Relationship</td>
<td></td>
<td>3.485</td>
<td>0.038*</td>
<td>a&lt;c,b=c,a=b</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td>4.041</td>
<td>0.023*</td>
<td>a&lt;c,b=c,a=b</td>
</tr>
<tr>
<td>Subjective Exp.</td>
<td>2.55±1.05</td>
<td>47.129</td>
<td>&lt;0.001***</td>
<td>a&lt;c,b=a,b</td>
</tr>
</tbody>
</table>

DISCUSSION

This study was carried out at Central Institute of Psychiatry, which is a tertiary referral centre providing mental health services in various domains with a wide catchment area catering to about 60,000 patients with various mental illnesses yearly. This hospital is also a super-speciality teaching institute for the mental health professionals.

This study was planned to quantify as well as to see the difference in various areas of quality of life of schizophrenia patients and their siblings and finally to compare them with healthy individuals. Samples for the study were selected purposively as per the inclusion and exclusion criteria. There was no significant difference among three groups with regards to age, education and family income. However, in three groups most of the respondents were male which reflects sampling bias as well as profile of patients attending out patient services. Significant majority of the siblings' group and normal control were employed, where as in the patients' group most of the patients were unemployed denoting poor socio-economic
adjustment of these patients. This finding is consistent with the finding of previously done studies on patients with schizophrenia as majority of the patients would remain unemployed and financially dependent on others because of many factors like unremitting psychopathology, presence of stigma in family, antagonistic attitude of society, history of psychiatric treatment and hospitalization etc. (Eack & Newhill, 2007). In present study though remitted patients were taken but still they had problems in getting along with the demands of competitive job market. Additionally it could also be stated that many patients would tend to remain unemployed because they have developed marked deficits in interacting and coping with social and physical environment and the complexity of modern society (Zubin & Spring, 1977; Lehman et al, 1982; Barry & Crossy, 1996; Caron et al, 1998; Solanki et al, 2008).

The present study has given an interesting finding as level of quality of life was observed to be poor in siblings in the environment domain of WHO-QoL-BREF as compared to normal control (see table 3). This can be explained as persons who are emotionally attached with the patients and share the common place of dwelling tend to have poorer quality of life than their ill relatives, because few probable reasons like ‘feeling of stigma’ and ‘burden of care’. These two factors could lessen the subjective well-being of the key relatives or the person who are closely attached with patients suffering from schizophrenia (McCarthy et al, 1989). Schizophrenia creates a massive vacuum in the socio-occupational repertoire of the affected people and to bridge the gap between their actual needs and remaining life skills other people like key care givers have to put an extra amount of effort, which may appear as taxing to these caregivers and relatives. So, one person’s inability in various important areas may become the burden to another person. Perpetuation of this connotation could work as negative factor affecting quality of life of these people. In present study we have used a more systematic and globally recognized measure of quality of life in the form of WHO-QoL-BREF and at the same time, keeping in the view of Indian population, standardized Hindi version of this measure was used to rule out culture bias. We observed that both schizophrenia patients and their siblings had poor quality of life than healthy individuals in areas like physical and psychological health, social relationship and subjective quality of life. Similar finding was reported by Schmid et al (2006), who explained that impairment in quality of life of the patients with schizophrenia and their siblings is in equal footage because they share the same socio-cultural milieu and siblings find them in socially embarrassing situation because of their ailing brother or sister. These findings are important as the index study has been one of the initial attempts to sneak into this domain on Indian population. These people often find difficulty in keeping connection with community and tend to remain socially isolated. Siblings of schizophrenia patients would often feel to remain isolated from others and would feel apprehensive about community’s attitude towards them. They would often fear about the societal labeling and being demeaned by the society for their close relationship with a mentally ill person. Very often their psychological health gets negatively affected because of living in constant fear and apprehension about societal rejection and antipathy (Bulgar et al, 1993). In our study, patients and their siblings had been found to have same level of quality of life and both of these groups had also been found to have lower quality of life than healthy individuals. It may be assumed that both patients and their siblings use the same social network and also receive almost similar kind of societal reactions from their respective socio-cultural milieu (Solanki et al, 2008). It was seen in earlier researches that schizophrenia patients’ core family members tend to have more subjective sense of social rejection and withdrawal than patients. Because in many cases patients do not have the insight to understand and interpret people’s attitude and thinking towards them; this occurs at least at the acute phase of illness or when patient remain symptomatic. In a similar study assessing quality of life in Indian population it was found that patients were having lower quality of life scores in social relationships domain of WHO-QoL-BREF scale (Solanki et al, 2008) although siblings were not assessed in this study.

CONCLUSION

It is well established that schizophrenia causes significant impairment in quality of life of the patients. Schizophrenia not only impairs quality of life of the patient but it could take away the subjective well being and quality of life of the siblings of the patients who stay with them and are emotionally attached with them. Dealing with patient care and maintaining family functions at normal level usually becomes a tough job for these people. To reduce their problem and help them becoming more able in dealing with this stressful situation, a comprehensive and persistent psychosocial management is required. Close family members and caregivers of the patients are to be included and given the chance to actively participate in the treatment and rehabilitative process.
Limitation and future directions: Gender-specific results could not be generalized for the entire cohort of schizophrenia. Sample size was limited although the shared results only indicate preliminary findings of an ongoing study. Correlation of quality of life domains with psychopathological variables can also provide more robust interpretation of data. A longitudinal design including other domains e.g., attitude, expressed emotions and family interaction pattern could yield a more comprehensive picture.

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5. Dr. Sayeed Akhtar, MD, DNB, (Psychiatry), Deputy Medical Superintendent, Central Institute of Psychiatry, Ranchi, Jharkhand.
Cognitive science is an interdisciplinary approach which congregates various scientific fields related to the study of mind. Cognitive science is not the unified world; it is the collective effort of researchers working in different fields. These disciplines include neuro-physics, philosophy, linguistics, computer science and most importantly psychology. Information processing which depends upon various higher psychological processes like emotions, perception, attention, language and learning forms the core of cognitive science. Like the gestalt concept, cognitive science with its interdisciplinary approach has a much greater impact than all these approaches taken together.

Cognitive science provides a gamut of knowledge which helps to understand the fundamentals of cognitive processes. There has been a recent trend in cognitive science toward the integration of biology and cognition. The role of this field is to explore the function of various physiological approaches behind these cognitive processes. Out of the important measures in this area are various brain imaging techniques.

The inventions and advances in cognitive science have been remarkable in the recent years. Simple objective evidence is evident with rise in the number of indexed journals publishing the studies on cognitive science research which include Trends in Cognitive Sciences, Journal of Cognitive Neuroscience, Cognitive Brain Research and many more.

ABOUT THE AUTHORS

The chapters of the book are contributed by several authors. But, the book has been edited by three editors. The first editor is Narayan Srinivasan who has done his Master's degree in Electrical Engineering from Indian Institute of Science and earned his PhD in Psychology from the University of Georgia. He has expertise in employing various methodologies to study higher cognitive functions like perception, attention, emotion and language. He is currently attached with Centre of Behavioural and Cognitive Sciences (CBCS) as Professor. The second editor of the book is Bhoomika Kar who is currently working as faculty member at the Centre of Behavioural and Cognitive Sciences. She has done her MPhil in Medical and Social Psychology from Central Institute of Psychiatry, Ranchi and PhD from National Institute of Mental Health and Neurosciences, Bangalore. Her specialization is in the area of developmental neuropsychology and area of interest includes cognitive development, dyslexia, and bilingualism. Janak Pandey, the third editor of the book, is the head of the Centre of Behavioural and Cognitive Sciences. He has earned his PhD degree from Kansas State University and he served the Indian Institute of Technology, Kanpur and many other esteemed institutes across the country as well outside the country. Professor Pandey has wide experience in academic and administrative positions and has won many prestigious awards for his contribution in the field of psychology. He has
been associated with various professional organizations like Associate Editor of the Journal of Cross-Cultural Psychology. His vigorous effort to emphasize the role of socio-cultural context in the study of human beings is incredible and is considered to be a tremendous contribution in global field of psychology.

ABOUT THE BOOK

This book is a compilation of various papers which were presented in either oral sessions or symposia at the second international conference on cognitive science, 2006 held at the Centre of Behavioral and Cognitive Sciences, Allahabad. The book is organized into 15 chapters under 4 sections. Every section begins with an introduction to the chapters included in it. The book starts with the chapter on basic associate processes under the section on learning and memory. This study attracts the reader with necessary illustrations of advanced themes, tasks and designs, and also helps understanding the application of associate learning in the perspective of decision making. The second chapter basically deals with geographical or navigation learning and the importance of creating cognitive maps and landmarks in lessening the cognitive load. Explanation is based on two experiments with the help of which the relationship between fixed and random order trails, numerical and iconic landmarks is discussed. Serial reaction time tasks which exclusively study implicit learning and tasks that differentiate supervised and trial and error learning are advances in cognitive sciences and are discussed with the aid of experiments on sequence learning and behavioural mechanisms of visuo-motor skill learning respectively in the next two chapters. In the last chapter in the section on learning and memory, principle author Denny Joseph, masters from Indian Institute of Technology (IIT), Madras includes complex mathematical equations and physics in a unique and promising architectural paradigm based study highlighting the role of indirect pathway and basal ganglia in reinforcement learning. Rightly described in the introduction part, they propose a comprehensive basal ganglia model taking into account all the related nuclei and components of reinforcement learning.

Section 2 deals with extensively studied area of perception and attention. Here, animal pre and post electrophysiological representations for peri-personal space, behavioural, anatomical and physiological correlations of reflexive spatial attention with inhibition of return and repetition suppression as underlying mechanisms are discussed in the first two chapters. The third chapter, a review on the effects of emotion on selective attention and cognitive control, includes uncommonly used flanker tasks along with several paradigms like error detection using Evoked Response Potentials (ERPs) and stroop tasks. Alongside, a brief description on existing connectionist and “integrate and fire” neurons’ models on simulation of neuropsychological disorders, Mavritsaki and colleagues propose a more compact “spiking Search Over Time and Space (sSOTS)” simulation model. This model suggests study of hemodynamic responses underlying the neural damage for structure-function relationship which can indeed be a potential future trend.

The first chapter in the time perception section is a critical evaluation with an experimental illustration and discussion on important methodological issues in studying ‘saccadic chronostasis’. In chapter eleven, perception of passage of time is considered as a prospective diagnostic tool in schizophrenia observing impaired pre-pulse inhibition of startle reflex and poor responses on odd ball paradigms as an underpinning. ERP measures of implicit timing of perceptual judgment and mechanisms describing and differentiating it from explicit timing are discussed in the chapter titled ‘implicit timing’. The last chapter of this section largely deals with anatomical correlates of duration judgment based on electro encephalography (EEG), functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) studies.

Language, cognition and development, the last section has only two chapters but this section is introduced by the editors with details on relevant basics of cognitive development. This section basically deals with the interrelationship between brain development, cognitive maturation and neural cognitive developments. Rapid temporal processing ability in terms of
temporal order judgment (TOJ) and auditory temporal order threshold is studied in patients with dyslexia with the underlying basis that these patients are identified to have impaired phonological representations and auditory processing deficits. This has been used as a means to understand the fundamental mechanisms of reading training programmes and neural plasticity in the chapter by Kar and Shukla. They have also discussed pertinent methodological issues in ERP measurement of auditory processing. The last chapter of the book is a review on language education which describes the relationship of events in infancy like development of visual system and quantity recognition skills with reading and mathematical skills respectively and the positive role of attention on success in academics at school. With a detailed and ample description on intricacies of literacy acquirement in India where the primary language is singular in different parts of the country and is dissimilar to the schooling language, the book ends with a literature review of research in India on this particular area.

CRITICAL EVALUATION

It is really difficult to draw a line between strengths and weaknesses of such a book which deals with a subject which is still at an evolutionary stage. The major strength of the book is inclusion of vast areas (learning, memory, perception, attention, time perception, language) of cognitive sciences. All these areas are majorly explored through experimental designs.

There has been an attempt to blend the chapters together, it somehow fails to establish the connection across the chapters. The apparent reason is that the chapters are individual works of separate research groups which are compiled together.

The major aim of cognitive neurosciences is its implication in rehabilitation of a particular disorder /disability. But, the book did not discuss the implication of these advances in cognitive neurosciences in those areas except dyslexia and schizophrenia to an extent. In the section of language development, adequate attention has not been paid to the developmental disorders.

Reading through the book, one is really helped by the introductory pages going into each section. Similarly, a summary of the chapters after each section would serve to make this book more lucid to read. Perhaps the best readers for this book are those who are trained in cognitive neuroscience but not those who want to learn its implication by simply reading the book.

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I was born in a lower income group family. We were four brothers and four sisters. I was always a topper in my school and college. I graduated from Banaras Hindu University (BHU), Varanasi in 1958 in Mechanical Engineering and became a lecturer in the same specialty in February, 1958. I got married on 26th May, 1959. I left BHU and joined NCDC (now Coal India) as Assistant Engineer one year later as my family members did not like a teaching job. From February, 1959 to December, 1970, I worked in the field and was rated as a good engineer with outstanding appraisal every year.

In last week of December, 1970, I was operated upon for hydrocele. Two weeks after the operation, on 16th January, 1971, I had an attack of fit. Many of my activities like driving jeep, going down the mine, smoking and drinking were stopped by the physician. In June, 1971, I went to my village home to attend my sister's marriage. After ceremony was over and Barat departed, I again had an attack of fit. I was shifted to hospital once again. After discharge, I returned to Ranchi where I continued treatment under a private psychiatrist. The medicines for epilepsy continued till 1975.

In May, 1977, a team of Engineers of Coal India Limited went to Leningrad for specialized training for planning and design of coal mines. I was one of the two engineers of Asansol division. I recollect now I carried lot of psychiatric medicines with me and was never in best of my spirits. My depression had probably started when I was posted in Asansol. Technically, I earned a lot of praise from my Russian counterparts. But deep in my heart, I was in Varanasi with my wife and children and parents. Very frequently, we were taken to have a look around in Leningrad, Kiev, Siberia, Moscow, etc. While my friends used to fully enjoy the trips around, I was not feeling any pleasure during my stay in Union of Soviet Socialists Republics (USSR).

After coming back to India, I was transferred to Ranchi. I purchased a home to ensure that my wife stayed there with my children so that their education did not suffer due to my frequent transfers. Sometimes in early 1982, I had an attack of severe depression. I was given 150 mg of amitriptyline. This disease (depression) virtually broke me. The construction of my house was on. I had financial shortage for completing the house. It took about one year to recover from depression. Very often I thought of committing suicide but only faces of my family members prevented me from doing so.

In 1983, while the treatment was on, it was diagnosed that I had enlarged heart (or drug-induced cardiomyopathy). My treating psychiatrist explained that it was due to amitriptyline. Since then I am on continuous treatment on various drugs. I had two major bouts of depression between 1985 to 1987 and 1992 to 1994. Depression never left me permanently. Upto March 2000, I was under the treatment of various private psychiatrists. On 11th March, 2000, I went to a tertiary care centre at Ranchi and since then, I am under the treatment of a consultant psychiatrist there. I have been diagnosed of bipolar depression. I am currently maintaining well and feeling better though I have to take medicines regularly, probably lifelong. I shall remain grateful to psychiatrists for having changed the course of my life.
INSTRUCTION FOR AUTHORS

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Under this section data from preliminary studies, studies done with smaller sample size, worthwhile replication studies, or negative studies of important topics are published. Single case reports do not meet the criteria for this section. Brief Communications cannot exceed 2500 words, including an abstract of no more than 150 words, text, and references). No more than one table or one figure can be included.

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

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Background: need for the study with specific aim or objectives
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