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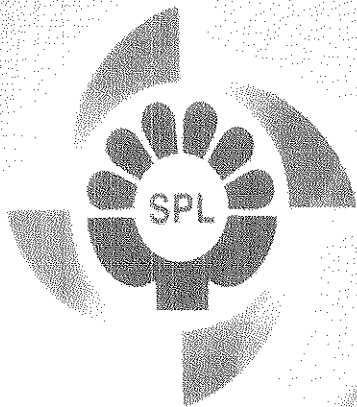
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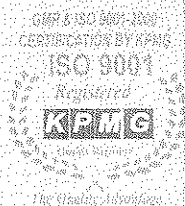
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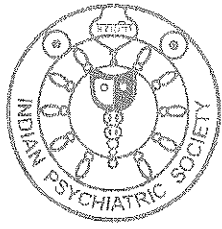
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Future of District Mental Health Programme

Kangkan Pathak

L.G. B. Regional Institute of Mental Health, Tezpur, Assam, 784001

BACKGROUND

India is the first developing country to formulate the National Mental health Programme (NMHP) based on the principle of decentralized and deprofessionalised mental health care¹. The approach was to integrate mental health with general health services, also referred to as community psychiatry initiative². A model delivery of community based mental health care at the level of district was evolved and field tested in Bellary district of Karnataka by NIMHANS during 1986-1995. The Central Government launched the District Mental Health Program (DMHP) as a 100% centrally sponsored scheme for first five years, at the national level during the 9th Plan as pilot project. It was launched in 1996-1997 in four districts, one each in Andhra Pradesh, Assam, Rajasthan, and Tamil Nadu, with a grant assistance of 22.5 lakhs each. DMHP was implemented in 27 Districts across 22 states/UTs in the 9th Plan. The DMHP was extended to 7 districts in 1997-1998, five districts in 1998 and six districts in 1999-2000. During the Tenth Five Year Plan, the DMHP was extended to 127 districts in the country³.

During the 10th Five Year Plan, NMHP was restructured and it became from single pronged to multi-pronged programme for effective reach and impact on mental illnesses. DMHP was redesigned around a nodal institution, usually the zonal medical college. The thrust areas were to expand DMHP to 100 districts all over the country, modernization of mental hospitals in order to modify their present custodial role, upgradation of Psychiatry wings of Govt. Medical Colleges/General Hospitals and enhancing the psychiatry content of the medical curriculum at the undergraduate as well as postgraduate level, strengthening the Central and State Mental Health Authorities with a permanent secretariat, IEC Activities and Research &

Training in the field of community mental health, substance abuse and child/ adolescent psychiatric clinics for improving service delivery⁴.

But 10th plan could not meet the objectives of NMHP which necessitated adoption of revised national mental health programme in 11th Plan. During the 11th Five Year Plan, it has been proposed to decentralize the programme and synchronize with National Rural Health Mission for optimizing the results. The main components of NMHP that have been proposed are^{5,6}:

- To establish Centres of Excellence in Mental Health by upgrading and strengthening of identified existing mental hospitals for addressing acute manpower shortage.
- To provide impetus for development of Manpower in Mental Health
- Spill over of 10th Plan schemes for modernization of state run mental hospitals and upgradation of psychiatric wings of medical colleges/general hospitals.
- District Mental Health Programme with added components of Life Skills training and counseling in schools, counseling service in colleges, work place stress management and suicide prevention services.
- Research in mental health
- IEC activities to remove stigma attached to mental illnesses
- NGOs and Public Private Partnership for implementation of the Programme to increase the outreach of community mental health initiatives under DMHP.
- Monitoring at Central/State/District level to facilitate implementation of various components of NMHP and evaluation

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DISTRICT MENTAL HEALTH PROGRAMME³

The Objectives of DMHP are:



1. To provide sustainable basic mental health services to the community and to integrate these services with other health services;
2. Early detection and treatment of patients within the community itself;
3. To see that patients and their relatives do not have to travel long distances to go to hospitals or nursing homes in the cities;
4. To take pressure off the mental hospitals;
5. To reduce the stigma attached towards mental illness through change of attitude and public education;
6. To treat and rehabilitate mental patients discharged from the mental hospitals within the community

The strategies for achieving these objectives are: i. Training programmes of all workers in the mental health team at the identified Nodal Institute in the State. ii. Public education in the mental health to increase awareness and reduce stigma. iii. OPD and indoor services for early detection and treatment. iv. Providing valuable data and experience at the level of community to the state and Centre for future planning, improvement in service and research.

For DMHP funds are provided by the Govt. of India to the state governments and the nodal institutes to meet the expenditure on staff, equipments, vehicles, medicine, stationary, contingencies, training, etc. for initial 5 years and thereafter they should manage themselves.

Evaluation of DMHP ⁷

During 2008-2009 evaluation of DMHP covering 20 of the 127 districts was carried out by Indian Council of Marketing Research (ICMR), New Delhi to assess the functioning of DMHP objectively and critically and to suggest future expansion of the scheme along with improvement in implementation if any, based upon the evaluation. ICMR, a division of Planman Consulting (India) Pvt. Ltd. visited 20 DMHP districts and 5 Non-DMHP districts (as control). The DMHP beneficiary Districts were chosen proportionately from 9th and the 10th Plan period. The following are the main findings of the evaluation:

“One third of the districts under the 9th plan have utilized over 99%, one third has utilized 63-91%, and rests have utilized 37-47% of the total amount they have received. This is mainly due to administrative delay, difficulty in recruiting and retaining qualified mental health professional, low utilization in training and IEC components. In Case of

the 10th plan districts, most of the districts had received only the 1st installment under DMHP. Of the grant received one third have utilized more than 90%, half of the districts spent 51-87% and rests of the districts the programme has recently started. Most of the districts had not utilized the full amount for training due to delay in implementation.The expenditure on ... training and IEC components which requires a lot of ground work, coordination and networking in the community is below par in most of the districts. This is mainly due to lack of organizational skills in the DMHP team, low community participation in the programme and lack of coordination with the district health system which comes under a different department. Regarding availability of drugs, only 25% of the districts reported that there has been a regular inflow of drugs. This is because of lack of dedicated drug procuring mechanism for DMHP and financial authority to the nodal centre. About 61% of the beneficiaries accessed the district hospital as their first point of contact. The percentage of patients accessing CHCs (12.7%) and PHCs (11.5%) were found to be low”.

NORTH EASTERN EXPERIENCE

Mere allocation of fund has nothing to do with the successful implementation of any programme. Now we have enough evidence from the ongoing DMHPs. We were part of the recent inspection of the Districts under District Mental Health Programmes (DMHP) by Central Mental Health institutions. What we have seen in the DMHPs in the north eastern states is not at all encouraging. The scenario is not different from other states also as seen in the evaluation by ICMR.

The training of all categories of personnel is emphasized in DMHP to face the challenge of shortage of professional manpower. But many districts could not train even 50% of the medical officers in the district. The figure is 34.3% in Goalpara, 15.8% in Tinsukia, 26.1% in Nalbari, 39.7% in Marigaon in Assam, 0% in East Siang, 0.70% in Papumpare (Naharlagun) of Arunachal Pradesh. Surprisingly, Papumpare district where DMHP started in 1998-99 trained just a single medical officer under DMHP out of 142 medical officers at a cost of several lakh of rupees. He was sent to NIMHANS for one year period but he is also no more associated with the programme. For paramedical staff the scenario is worse.

The basic tenet of DMHP was decentralization i.e. appropriate mental health service should be made available at the doorstep of the people. It should be accessible at



the sub-centre and village level. But in reality it is far from truth even in those districts which have completed 5 year term of central assistance and was taken over by state government. The skeleton service of mental health care is restricted to district hospital only. The non-psychiatrist medical officers are hardly involved in the implementation of the programme. The minimum training of the health workers that is supposed to provide comprehensive health care at the most peripheral level did not materialise in most of the districts. Even the trained mental health professionals are transferred from the DMHP to other posts in state health services. In another case several lakh of rupees were shown to be spent in training but there is no record of the name of paramedical staff/ health worker who were trained under DMHP, duration of training, method of selection, their current place of posting, how they have contributed to DMHP after the training etc.

According to norms DMHP team should be trained at the nearest training institute. But some of the nodal officers are ignorant about the training institutes which are region wise identified for this purpose. There was no communication from the ministry also. The identified centres are NIMHANS, Bangalore for southern states, IHBAS, Delhi for northern states, LGBRIMH, Tezpur for northeastern states, Institute of Mental Health and Neurosciences, Pune for Western states, CIP, Ranchi and RINPAS for eastern states. It seems there is no coordination among the Centre, the State Nodal officers and the identified institutes. Because of which even the paramedical personnel were sent to NIMHANS, Bangalore for training at a huge cost.

The objectives of the programme are not achieved till today after lapse of more than one decade. This indicates that there is a poor commitment of the government, psychiatrists, and community at large. The programme has given more emphasis on the curative services to the mental disorders and preventive measures are largely ignored⁸. It is beyond doubt that more public awareness programmes are required. A huge amount of money was earmarked for IEC activities to increase public awareness about mental illness. Here also the programme failed abysmally in some districts. A classic example is this. In a district where large majority of the people are illiterate, pamphlets in English were printed as part of IEC activities. The argument given was that there are many dialects in that particular state so it is not possible to publish IEC materials in each and every dialect. But the distribution of materials in English to this group of people is unlikely to

serve any purpose. Moreover, as part of IEC activities, Mental Health Act, 1987 was also printed. This must have cost several thousands of rupees at the minimum if not in lakh. This is sheer wastage of public money. This is because MHA- 1987 is freely available in the market with nominal price. Moreover this Act is hardly of use for the laymen. So, huge stock of copies of MHA-1987 is lying in the office of the nodal officer. It is not very difficult to guess whose interest is served by such action.

According to the operational guideline⁹, states are required to submit proposals under various schemes of the programme. Based upon these proposals from the states funds are released to the State Health Society for implementation as per the scheme guidelines. State nodal officer for NMHP will represent the programme in the State Health Society and get the grant released for various districts and institutions as per the scheme/guidelines. This norm is also not followed by various state Governments. Some state government took several years after the 1st installment from the Central government to appoint the state nodal officer. Obviously, there is long delay in initiating the programme for which the utilization certificate could not be provided within the stipulated time. As a sequel of this, the programme did not receive the successive installments and the programme had to be withdrawn. There is an example of having practically two State nodal officers, one, a senior official from state health service, for those districts which already completed five years term and are taken over by state government and the other, a psychiatrist for those districts which are getting central grants and yet to complete five years . There is no coordination between the two nodal officers. Neither the DMHP psychiatrists, nor the joint director of Health services of the districts were ever taken into confidence for the financial matter by the concerned official of the directorate of health services of the state. In the district level there was no documents related to financial matter for monitoring. There is an allegation that there is frequent change of officers in the centre who look after this programme, because of which there is delay in issuing subsequent installment even after submitting utilization certificate repeatedly.

Another matter of concern in many DMHP is lack of transparency and poor maintenance of record of expenditure. There was no proper documentation of the implementation of DMHP for the entire period in a district. One peculiar aspect of handling grants from centre for DMHP in one state is that the fund used to be deposited

in the state exchequer for a long time. The 1st installment of Rs. 26.2 lacs meant for East Siang DMHP (located about 250 Km from the state capital) was received in February, 2007. The grant was deposited in state exchequer. Surprisingly it is not handed over to the concerned district till date. This has prevented the humble beginning even after 3 years. Keeping the money of 1st installment for more than three years is violation of guidelines of the programme⁹. If unspent, the money should have been refunded with interest. Many programmes failed to spend the 1st installment even after several years.

As DMHP is a district level programme, the financial matters should be managed at district level. In most of the DMHP, the people working at the district level are totally unaware about the fund position and its utilization. There is a case where the fund is managed not by the nodal officer or DMHP team but by the member secretary of State Mental Health Authority working in a different district. So, managing the programme from headquarter of a different district becomes an obstacle for successful implementation of the programme.

As per the scheme for strengthening the psychiatric wings of general hospitals and medical colleges in the Government sector under revised NMHP, a one-time grant of Rs.50 lakhs for upgradation of infrastructure and equipment was received by many districts hospitals which are nodal centers for DMHP. The grant covers:

1. Construction of new ward.
2. Repair of existing ward.
3. Procurement of items like cots and tables.
4. Equipment for psychiatric use such as modified ECTs

The in-patient ward of a district hospital was renovated several times with these central grants. But even after expenditure of such a heavy amount the in-patient ward is found to be in poor shape. The small cubicle like set up is not suitable for hospitalization for psychiatric patients. The dilapidated floor and dirty wall is tell-tale evidence of utter neglect and mismanagement. There was only a single patient in the ward on the day of inspection. The arrangement in the ECT room speaks volume about its utilisation. The ECT machine is safely kept in locker. Layer of dust accumulated over the Boyles' apparatus. It seems it was never used since its purchase. In another district hospital, the grant received for development of psychiatric ward was spent for construction of office building. Equipments like modified ECT machine, Boyle's apparatus were purchased with the grant but never used as there is

no indoor facility. The erstwhile 'Isolation ward' was earmarked as in-patient ward for psychiatric patient. Since no patient was treated as in-patient, the existing psychiatry ward is being used as 'Burn Unit'. On the other hand, some DMHPs which is doing a very good job is facing problem due to lack of provision of in-patient ward in the district hospital. They have to share beds with medicine department which creates conflicts at times.

In most of the districts under DMHP, the supply of psychotropic medicines is few and irregular. One DMHP psychiatrist commented that supply of surgical items even without indent is more regular (though often unused) than psychotropic medicines. The reason behind this is well understood. There was occasion when medicine supplied was much more than required and hence major part of the consignment expired. The medicines are dispensed only in the district hospital. No essential psychiatric medicines are made available or dispensed at primary level.

There is another interesting case. As per record of Ministry of Health and Family Welfare, Government of India, there is a programme under DMHP in Darrang District of Assam and Gauhati Medical College is the nodal institute. But no such programme is going on in Darrang District of Assam. Neither Principal of Gauhati Medical College nor the State Nodal Officer received any grant so far for this district. This matter was already intimated to the Government of India by the State Nodal Officer. But we were asked to inspect that district recently by the Government of India. Government of India should probe about allocation of fund to Darrang DMHP. If no such sanction was made, the money should be released immediately so that the nodal institute can start the programme immediately.

At present the major issue of DMHPs which completed five year term is the regularisation of services of the staff working for DMHP by the state government. They were given consolidated pay only without any increment or allowances. For several years they worked without any pay for which many member of DMHP team already left the service. They were given infrequent financial assistance in the form of lump sum amount by the state government. But the staffs want their service to be regularised by the state government with pay packages at par with other state government employee which is very much justified. In order to make the programme successful, their grievances must be addressed by the concerned government. As stated in the NMHP guideline, it is mandatory on the part of the state government to take over the programme on completion of central assistance



for a period of five years. But the genuine grievances of DMHP team working in the field are not reaching the officials sitting in state capital.

In all practicality, DMHP has become solely dependent on the DMHP psychiatrist in most of the districts. The medical officers who were trained under DMHP are no longer recording and reporting the number of psychiatric cases seen by them once it is taken over by the state governments. This is probably because of lack of communication. Even many nodal officers are not receiving any guideline from the centre. So, it is not surprising to know that there is no record of how many medical officers who were trained under DMHP are transferred to other districts or retired. No new training programme is undertaken after it was taken over by state government for lack of fund. In the monthly meeting also, record from the psychiatry department is hardly discussed.

The 11th Plan has a vision of district mental health programmes that include community mental health services like life-skill training and counselling in educational institutions, workplace stress management and suicide prevention services. Most of the DMHPs of this region did precious little in this regard. DMHP in current form is mostly focused on pharmacological management of psychosis only.

There is a goal of providing short-term training to deliver basic mental health services to the existing health staff in the districts by the end of the 11th Plan. This goal is unlikely to be achieved in the Plan period.

The role of State Mental Health Authority in implementation of the programme needs to be defined. In many states the state mental health authority is defunct or it is not very much sure about their roles and responsibilities. It should function as technical support team to assist the state nodal officer.

REMEDIAL MEASURES

As a remedial measure for such anomalies and for success of DMHP, frequent and timely monitoring is essential. In many cases the official who was responsible for implementation of the programme is no longer available due to superannuation, death or transfer. Many queries could not be clarified by the officials currently engaged with the programme. There is no point of monitoring a programme several years after it was completed. The idea of monitoring is to find out the deficits so that timely corrective measures can be taken in order to make the

programme successful. Continuous monitoring and reporting as well as regular external evaluation is recommended for mid-course correction. Utilisation certificate should not be taken at their face value. The staff working in DMHP should be regularized by the State government and instead of consolidated pay they should be given pay and allowances at par with other employees of state government. The medical officers who are yet to be trained under DMHP should be trained. There should be thorough verification of expenditure in various heads since inception of the programme. The programmes where posts of supporting staff are lying vacant should be recruited immediately and sent for training for stipulated period in the identified nodal institutes for the region. The in-patient ward should be made functional immediately. There should be an effective and time specific monitoring system. Periodic training of the health workers at primary level on priority mental disorders and their day to day supervision, along with monthly review of the mental health programme during the regular review of other health programmes will definitely play a significant role in proper implementation of DMHP. By this process, the mental health programme will not be seen as separate from the other health programmes. Mental health services at subcenter, PHC, CHC level should be strengthened so that the services become more accessible to the patients⁷. Most of the DMHP failed to provide disability certification on a monthly basis. The involvement of Panchayat Raj institutions and voluntary organizations for community level rehabilitation of patients, including the setting up of support to self-help groups is almost nonexistent.

Central Government in consultation with State Governments should ensure continuity of DMHP beyond the plan period by an undertaking to this effect and integration of mental health services in State and District Programme Implementation Plan (PIP). The fund allotment should be regular and timely. Initiation of programme should be ensured in time bound manner after the receipt of funds⁷. The salary of staff should be revised. The salary of DMHP psychiatrist and the faculties under NMHP is so less that it is unlikely that these posts will be filled up even if there is sufficient manpower until and unless there is revision of the remuneration. The DMHP psychiatrists are mostly from state health cadre and therefore they are not spared from other emergency duties. They do not get any incentive also for working in DMHP. So, there is resentment and some of them consider it to be an extra burden. The staff of the DMHP should be



exclusively engaged for programme related works. Training should be imparted regularly to all members of the DMHP team. Refresher training and in-service training with the focus on local challenges will boost up the morale of the personnel implementing the programme. Training the DMHP team in organizational skills, networking and involvement of all stakeholders is also important. The trained personnel should be retained in the district or if transferred it should be to other DMHP districts only. The DMHP team needs to be trained on Programme Management and organizational activities⁷. It is recommended that in addition to diagnosis and treatment involvement of family members and community in the treatment process should be stressed. Counseling should be an integral component in each step. Proper mechanism should be evolved for drop out cases by ensuring availability of psychiatric social worker and community nurse to follow up the drop out cases. The involvement of PRIs and local leaders can make this much easier. The programme should emphasize on promotive and preventive aspects rather than curative only. So, suicide prevention, workplace stress management, school and college counseling services etc should be incorporated at each level. Though there is enough discussion about integration/ coordination of mental health programme with other health programme like ICDS, NRHM this is far from reality. There is urgent need for regular inflow of medicines and availability at primary level. Drug procurement mechanism should be streamlined to reduce delay in procurement and achieve economy of scale (e.g. Tamil Nadu model)⁷.

There should be regular review of the case Records by the DMHP officer/ team for completeness of the records; correctness of the diagnosis, appropriateness of the medicine used, appropriateness of the dosage of the medicine, follow-up records-completeness, appropriateness of changes in the treatment, Medicine stock etc. The record and work of health workers should be evaluated and their problem should be discussed. Most of the DMHP failed to initiate any programme for support of the caregivers. Community resources like families were

not accorded due importance. Most important is that the nodal officer should be a psychiatrist. Non Psychiatrist nodal officers overburdened with other responsibilities and having no technical expertise failed to give justice to their responsibilities particularly when the central guidance is inadequate.

It was indeed a good idea to expand this programme to each districts of the country during 11th five year plan period. But it has not been possible due to flaws that are discussed already. The core idea of integration with the general health service is not implemented at the operational level. With proper monitoring and active involvement of all sections of people definitely DMHP can lessen the sufferings of millions of mentally ill and their families and promote mental health in the society.

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Insight into Schizophrenia: A comparative study between patients and family members

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ABSTRACT

Background: Despite the recognition of the role that sociocultural factors play in the process of acquiring insight, recent research on this issue is scarce. Aim of the present study was to compare patients' insight with family members' insight.

Method: 50 patients with schizophrenia (International Statistical Classification of Diseases and Related Health Problems – Tenth Revision – ICD-10) undergoing treatment and members of their families were interviewed using the Schedule for Assessment of Insight (SAI). It was a cross-sectional study.

Results: Family members performed better than patients in the total and partial SAI scores [total: 11 to 6.7 ($p < 0.0001$); adherence: 3.84 to 2.7 ($p < 0.0001$); recognition of illness: 4.54 to 2.84 ($p < 0.0001$); relabeling of psychotic phenomena: 2.62 to 1.16 ($p < 0.0001$)]. However, when the scores were correlated for each patient-family member pair, the partial scores had positive correlations (adherence $r = 0.07191$; recognition of illness $r = 0.1632$; relabeling of psychotic phenomena $r = 0.2052$).

Conclusion: There was a positive correlation between the scores of family members and patients regarding adherence, recognition of illness and the ability to relabel psychotic phenomena as abnormal. This might be understood as a stronger influence of sociocultural factors in these dimensions. The fact that family members were not assessed for the presence of psychopathology is a limitation of this study.

Keywords: Schizophrenia. Awareness. Self concept. Family relations. Social environment.

INTRODUCTION

Insight is ability to understand the true cause and meaning of a situation (such as a set of symptoms). Impaired insight is diminished ability to understand the objective reality of a situation¹.

A lack of insight was the most prevalent symptom of schizophrenia found in two seminal international studies, the International Pilot Study of Schizophrenia (IPSS)² and the Classification of Chronic Hospitalized Schizophrenics (CCHS). In addition, lack of insight has been included among the 12 symptoms that have the highest power to

discriminate schizophrenia from other psychoses and depression³. It has been shown that patients with better insight are more likely to present better adherence to treatment^{4,5}. Lack of insight has been correlated with worse outcome⁶, more admissions⁶, worse psychosocial functioning^{7,8}, reduced success rates in outpatient treatment of relapses⁹, and longer interval between the onset of symptoms and the seeking of treatment¹⁰.

The relationship between insight and psychopathology is controversial. Some authors have proposed that insight is independent of psychopathology^{11,12} while others have found a negative correlation between insight and the general measures of psychopathology¹³.

The concept of insight is much larger than just knowing whether one is ill or not, and if so, having a sensible view regarding treatment. It is a quality that has been highly valued by most mental health clinicians because a strong

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link is assumed between having insight and better quality of life¹⁴. Although, in psychiatry, we concentrate mostly upon the narrow meaning of insight with regard to mental illness, we need to retain this broader concept. Therefore attempts in defining and measuring insight are potentially of practical importance¹⁵.

In recent years, sophisticated instruments for quantifying insight have been developed, in which different aspects of insight can be considered independently. Within each of these realms, insight is not an all-or-nothing phenomenon¹⁶. A conflict about the nature of psychiatric symptoms and disorders can arise between the interviewer and the patient. Also, insight has to be assessed against the background of knowledge of, and beliefs about, mental disorder; it is not the same as complete agreement with the views of the doctor¹⁷.

The recent resurgence of interest in insight has had its share of criticism. Medical anthropologists have criticized the concept of insight for failing to recognize that people can have various culturally shaped frameworks to explain their illnesses, all possibly valid. From this point of view, the concept of insight is 'eurocentric and essentially arrogant'¹⁸ as it dictates that patients should apart from agreeing that they are mentally ill and requiring treatment, also agree to re-construct their experiences within the terms and concepts of western psychiatry.

In recent years, there has been consensus that insight is a multi-faceted phenomenon. There is also recognition of the need to operationalize the concept for clinical practice and to devise scales to measure it. There are differences in the number of dimensions of insight being studied even among those not looking at the social and cultural aspects. The latter aspects have not received sufficient attention¹⁵. The scarcity of studies on the social and cultural influences on insight arises in spite of the large number of works on the role played by those factors in the onset, diagnosis, treatment and prognosis of schizophrenia^{19, 20, 21}.

According to Johnson and Orrell (1995)²², psychotic patients disagree with their doctors as to their symptoms and illness not only because they are ill, but also because they have a different concept of their experience, which is molded by their sociocultural context. There are standardized ways of thought and action for reporting the experiencing of illness that are guided by the local culture. Patients use these standards, which may differ from the physicians' standards and from those of patients from different cultures. Cultural influences on the self-evaluation

of mental illness are found when groups of psychotic patients from different cultures are studied and compared.

In addition to the different conceptions of mental illness, there are other important sociocultural factors. White *et al.* (2000)²³ found a strong association between the size of the primary group (family and close friends) and insight. They stated, as also postulated by Breier and Strauss (1984)²⁴, that broader social contact exerts a normalizing function on the individual that leads to better insight.

Another sociocultural factor that could interfere in the evaluation of mental illness by patients could be stigma, which would be stronger in some specific cultures²². There is evidence that patients' denial of their illness could buffer the impact of the stigma on patients' self-appraisal²⁵.

Aim of the study

The objective of this study was to: Compare patients' insight with family members' insight.

Methods

Sample: 50 patients and 50 respective family members were selected from those attending Psychiatry Department of a General Hospital.

The inclusion criteria were: *Patients* –

1. Diagnosis of schizophrenia according to the criteria of the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD – 10).
2. Only patients giving Informed Consent.

Family members –

1. Availability of family members to accompany the patients to the interview and for application of the scale. Family members (related by blood/ marriage) are key relatives having a relationship of parent/ sibling/ spouse/ off-spring with the patient. Relatives are the primary caregivers identified as the family member who provides the most support and/ or assistance.
2. Only family members giving Informed Consent. Patients who could not be interviewed because of mutism, negativism or psychomotor agitation were excluded.

Interview and Instrument

Demographic and clinical data were gathered and the diagnostic inclusion criteria were assessed according to the ICD – 10 criteria. The evaluation of insight was carried out using the Schedule for Assessment of Insight (SAI),



for each participant (patient and family member) separately. The interviews were carried out over four months, between August, 2006, and November, 2006. Patients and family members were interviewed on the same days.

The Schedule for Assessment of Insight (SAI) in Psychosis was published in 1992¹³ (David *et al.*), in which, apart from the recognition of mental illness and compliance with treatment, the ability to relabel unusual mental events as pathological was also included. The SAI comprises three subscales that measure distinct components of insight, namely adherence to treatment, recognition of illness and ability to relabel psychotic phenomena as abnormal. The sum of the scores of the subscales yields a total score of up to 14 points.

Five demographic variables were recorded for patients and family members: gender, age, marital status, religion and number of years of education. Seven clinical variables were recorded for patients only. These were presence, number and duration of previous hospitalizations, duration of illness, family history of schizophrenia, suicide attempts and age at onset of illness.

Student's t test, Welch t test and Mann Whitney U test were used to compare means between the two groups. The chi-squared test and two-way ANOVA were used to compare category variables, and correlations were performed using the Spearman correlation test.

Results

The demographic and clinical characteristics of the two groups are presented in Table 1.

It is evident from the table that there are significant differences between the demography of patients and family members, namely in the gender, age and marital status. Multivariate analysis was done to find the significance of these variations in the SAI scores. Two-way ANOVA was done in the categories of gender and age group. Marital status was not included for the test as it is dependent upon the age. From the marital status table we find that there are an increase number of married persons in the family member group and that group has high age compared to the patients. From the ANOVA, it is concluded that a significant difference exists between patients and family members in the SAI scores but the interaction statistics shows that gender does not influence that difference. So, gender as a related factor for SAI score can be discarded according to the test. Age was another demographic variable that was found significantly

Demographic characteristics	patients (n = 50)	family members (n = 50)	t/df	p
Gender % (n)				
Male	44 (22)	66 (33)	4.040	0.0444
Female	56 (28)	34 (17)		
Age in years (95% CI)	34.4 (31.290 – 37.510)	42.34 (37.724 – 46.956)	2.558	0.0137
Marital status % (n)			9.085	0.0106
Single	44 (22)	26 (13)		
Married	48 (24)	74 (37)		
Widowed/Separated	8 (4)	-		
Religion % (n)			0.00	1.00
Hindu	80 (40)	80 (40)		
Islam	18 (9)	18 (9)		
Christian	2 (1)	2 (1)		
Years of education (95% CI)	9.26 (7.996 – 10.524)	8.68 (7.252 – 10.108)	0.6722	0.5046
Clinical characteristics				
Previous hospitalization % (n)	56 (28)			
Number of previous hospitalizations, ‡ mean (95% CI)	1.89 (1.493 – 2.293)			
Time spent hospitalized over lifetime in weeks, ‡ mean (95% CI)	6.35 (4.766 – 7.948)			
Duration of illness in years, mean (95% CI)	9.28 (7.328 – 11.232)			
Family history of schizophrenia % (n)	20 (10)			
Patients who attempted Suicide % (n)	26 (13)			
Age at onset of illness in years, mean (95% CI)	25.12 (22.171 – 28.069)			

‡ Refers to patients who had already been hospitalized; CI = confidence interval.

varying between patients and family members and to test the influence of age on the SAI scores another ANOVA was performed. The age was divided into 7 equal groups and made into a category variable for ease of calculation. This again shows that the interaction between age and SAI scores of patients and family members is non-significant and hence age does not influence the SAI scores.

Five patients had been admitted to the psychiatry ward and the other 45 were under outpatient treatment at the time of the interview.

The mean SAI score was 6.7 (95% CI: 5.897 to 7.503) for the patients and 11 (95% CI: 10.384 to 11.616) for the family members.

Family members performed better in the total and partial SAI scores, as shown in Table 2.

	Patients	Family members	t	p
Adherence (95% CI)	2.7 (2.354 – 3.046)	3.84 (3.684 – 3.996)	5.947	p < 0.0001
Recognition of illness (95% CI)	2.84 (2.325 – 3.355)	4.54 (4.209 – 4.871)	6.097	p < 0.0001
Relabeling of psychotic phenomena (95% CI)	1.16 (0.8649 – 1.455)	2.62 (2.276 – 2.964)	7.685	p < 0.0001
Total (95% CI)	6.7 (5.897 – 7.503)	11 (10.384 – 11.616)	9.402	p < 0.0001

Note: Maximum scores for adherence and relabeling of psychotic phenomena = 4, and for recognition of illness = 6. CI = confidence interval.



However, when the scores were correlated for each patient-family member pair, the partial scores had a positive correlation (Table 3), though the correlation coefficient was low.

Table 3. Correlation of the components of insight between 50 patients with schizophrenia and 50 family members (Spearman Rho test)

	Adherence (P)	Recognition of illness (P)	Relabeling of psychotic phenomena (P)	Total (P)
Adherence (F)	0.07191			
Recognition of illness (F)		0.1632		
Relabeling of psychotic phenomena (F)			0.2052	
Total (F)				0.1565

Note: (F) = family members, (P) = patients.

Discussion

Family members scored significantly higher in all the components of the scale, namely adherence (3.84 versus 2.7), recognition of illness (4.54 versus 2.84) and relabeling of psychotic phenomena (2.62 versus 1.16) as well as in the overall score (11 versus 6.7) than patients. These differences were statistically significant ($p < 0.0001$). This may be due to the influence of psychopathology.

In confirmation with findings of the present study, Sanz *et al.* (1998)²⁶ showed that there is an inverse correlation between insight, the severity of psychopathology and positive affective disturbance.

David *et al.* (1992)¹³ found that the 'total insight score' in their study had a moderate inverse correlation with the Present State Examination²⁷ total score, which was an indication of the global severity of the illness.

In contrast to findings of the present study, McEvoy *et al.* (1989a)²⁸ reported that insight as measured by the Insight and Treatment Attitudes Questionnaire (ITAQ) did not correlate with either the severity of acute psychopathology or the changes in psychopathology with treatment. They speculated whether the mechanisms underlying the production of positive symptoms and disturbed insight were independent and whether the latter was more resistant to the effective use of neuroleptic medication.

The present study also exhibited positive correlation between the scores of family members and patients in adherence to treatment ($r = 0.07191$), recognition of illness ($r = 0.1632$) and ability to relabel psychotic phenomena as abnormal ($r = 0.2052$). Although these correlations were not statistically significant (adherence, $p = 0.6197$; recognition of illness, $p = 0.2576$ and relabeling of psychotic phenomena, $p = 0.1529$). The positive correlation can possibly be understood as the effect of stronger influence of cultural factors on these components of insight.

According to Kirmayer and Corin (1998)²⁹, the individual's capacity for self-knowledge stems mainly from social processes, involving the observation of others and the acquisition of ways to describe oneself that are specific to the culture that the individual comes from. Therefore, insight is not a mere act of the patient's self-perception that he or she is ill, but rather a construction that depends on the sociocultural context.

Johnson and Orrell (1995)²² stated that different dimensions of insight are influenced in different ways by psychosocial factors. The ability to relabel psychotic phenomena as abnormal is influenced more by psychopathological factors than by sociocultural ones. Recognition of illness is the variable most affected by the latter factors. This has also been suggested by Gigante and Castel (2004)³⁰.

Both David *et al.* (1992)¹³ and McEvoy *et al.* (1989c)³¹ found that, as a group, involuntary (that is compulsorily admitted) patients have less insight.

Moreover, compliance with prescribed treatment is a much more complex phenomenon affected by social factors and beliefs about health and sickness³².

David *et al.* (1992)¹³ found that treatment compliance was not strongly related to the ability to recognize one's own delusions and hallucinations and to relabel them as abnormal.

It is interesting that patients may comply with treatment; even though they do not believe themselves to be ill, if the social milieu is conducive^{31,33}. Startup (1996)³⁴ suggested that a relationship between cognitive deficits and insight might only exist among some subpopulations of patients and that there might be stronger influence of psychological and sociocultural factors among those whose cognitive functions but not insight are preserved.

Anthony S. David, Professor of Cognitive Neuropsychiatry, Institute of Psychiatry, King's College, London, working on insight with colleagues at the Christian Medical College and Hospital, Vellore, consider the cultural factor is very interesting. What is regarded as a symptom of an illness isn't simply a matter of biology and physiology. There are cultural and social aspects to it as well. This is true especially of psychiatric disorders. They feel that the biomedical explanation is not the only explanation and are currently trying to understand a more diverse culture gives people a more flexible approach to understanding illness. Some people argue that lack of "insight" is not a brain



disorder. It is simply a sensible approach, given the stigma attached to mental disorders. They wonder why anyone would want to admit that they have such a problem. They would only be shunned. Maybe if the person explains the hallucinations, mystical or religious beliefs, and so on, rather than label it a medical condition, some of the stigma would be avoided and self-esteem preserved, and yet there is awareness that something is different. It may be easier for them to accept help. So, David and colleagues are looking at the cultural as well as biological aspects.

Limitations

Family members were not assessed for personality traits and neuropsychological deficits that could have influenced their ability to recognize schizophrenia symptoms among their relatives. With regard to the possibility of generalizing the results of this study, there was a selection bias, considering that the sample was recruited within a clinical setting. Demographic and clinical characteristics may influence study findings.

Conclusion

Since patients and members of their families share the same cultural environment, the significant difference regarding their insight can possibly be better explained by disease factors. Different degrees of insight, namely adherence to treatment, recognition of illness and ability to relabel psychotic phenomena as abnormal, seem to be strongly influenced by sociocultural factors.

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Appendices

SCHEDULE FOR ASSESSMENT OF INSIGHT (SAI)*

- 1a. Does patient accept (includes passive acceptance) treatment (medication and/or admission and/or other physical and psychological therapies)?
 - Often = 2 (may rarely question need for treatment)
 - Sometimes = 1 (may occasionally question need for treatment)
 - Never = 0 (ask why)
 - If 1 or 2, proceed to 1b.
- 1b. Does patient ask for treatment unprompted?
 - Often = 2 (excludes inappropriate requests for medication, etc)
 - Sometimes = 1 (rate here if forgetfulness/disorganization leads to occasional requests only)
 - Never = 0 (accepts treatment after prompting)
- 2a. Ask patient: "Do you think you have an illness?" or "Do you think there is something wrong with you?" (mental, physical, unspecified)
 - Often = 2 (thought present most of the day, most days)
 - Sometimes = 1 (thought present occasionally)
 - Never = 0 (ask why doctors/others think he/she does)
 - If 1 or 2, proceed to 2b.
- 2b. Ask patient: "Do you think you have a mental/psychiatric illness?"
 - Often = 2 (thought present most of the day, most days)
 - Sometimes = 1 (thought present occasionally, minimum once per day)
 - Never = 0
 - If 1 or 2, proceed to 2c.
- 2c. Ask patient: "How do you explain your illness?"
 - Reasonable account given based on plausible

mechanisms (appropriate given patient's social, cultural, and educational background, eg, excess stress, chemical imbalance, family history, etc) = 2

Confused account given, repetition of overheard explanation without adequate understanding or "don't know" = 1

Delusional explanation = 0

- 3a. Ask patient: "Do you think the belief that... (insert specific delusion) is not really true/happening?" or "Do you think that (insert specific hallucination) is not really true/happening?"

Often = 2 (thought present most of the day, most days)

Sometimes = 1 (thought present occasionally, minimum once per day)

Never = 0

If 1 or 2 present, proceed to 3b.

- 3b. Ask patient: "How do you explain these phenomena (the belief that hearing that voice/seeing that image, etc)?"

Part of my illness = 2

Reaction to outside event/s (eg, tiredness, stress, etc) = 1

Attributed to outside forces (may be delusional) = 0

Maximum score = 14.

*Sajatovic, M. & Ramirez, L.F. (2003) *Rating Scales in Mental Health*, pp. 222-223. Hudson: Lexi-Comp.

STATISTICS

The study population consisted of 50 patients of psychosis and 50 of their relatives. In those 50 pairs of patients and their respective relatives the distribution of various demographic factors are depicted in the following table.



	Patient	Relative	Remarks	
Gender				
Male	22	35	Fisher's test P=0.04	
Female	28	17		
Marital status				
H	2	2	Chi-statistic = 9.279 Df = 3 P = 0.0258	
M	22	35		
S	22	13		
W	4	0		
Religion				
Christian	1	1	Comparison not done as both groups had equal numbers.	
Hindu	38	38		
Islam	9	9		
M	2	2		
Age (mean years)				
	34.4 (+10.93)	42.34 (+16.23)	Welch's approx. t = 2.87 df = 85 P = 0.0052	Welch t test was performed as the SEMs were significantly different between the groups.
Edut (mean years)				
	9.26 (+4.44)	8.68 (+5.02)	Mann Whitney U Statistic = 1198.5 U = 1301.5 P = 0.725	

Comparison between patient and family members group in the subscales and total scores of SAI. Mean of SAI scores were compared by non-parametric test for mean difference. The groups failed normality test and Mann Whitney U test was done to compare the groups. The table shows significant differences between the scores among patient and their relatives in all subscales and also in the total score. Significance level were very high for all the tests ($p < 0.0001$).

SAI scores (Adherence subscale)				
	2.7 (+1.22)	3.84 (+0.59)	MU statistic = 596.0 U' = 1904.04 P < 0.0001	Mann Whitney U statistic was performed as the groups failed normality test.
SAI scores (Recognition subscale)				
	2.84 (+1.81)	4.54 (+1.16)	MU statistic = 517.00 U' = 1983.0 P < 0.0001	-do
SAI scores (Relabelling subscale)				
	1.16 (+1.04)	2.62 (+1.21)	MU statistic = 596.0 U' = 1904.04 P < 0.0001	-do-
SAI Total Scores				
	6.7 (+2.82)	11 (+2.17)	MU statistic = 272.50 U' = 2227.5 P < 0.0001	-do-

It is evident from the first table that there are significant differences between the demography of patients and family members, namely in the gender, age and marital status. Multivariate analysis was done to find the significance of these variations in the SAI scores. Two-way ANOVA was done in the categories of gender and age-group. Marital status was not included for the test as it is dependent upon the age. From the Marital status table we find that there is an increase number of married persons in the family member group and that group has high age compared to the patients. The following table shows the two-way ANOVA tables mentioned below:

Two-way ANOVA table for Patient-Family member and Gender variables. Treatment group is Patient-Family member and Blocks are gender

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	423.18	1	423.18	65.61	<0.0001
Gender	1.34	1	1.34	0.21	0.6491
P-F * Gender	0.02	1	0.02	0.00	0.9572
Error	619.15	96	6.45		
Total	1043.69	99			

From the ANOVA table it is concluded that a significant difference exists between the Patient and Family members in the SAI scores but the Interaction statistics shows that Gender does not influence that difference. So, gender as a related factor for SAI score can be discarded according to the test.

Age was another demographic variable that was found significantly varying between the patient and family members and to test the influence of age on the SAI scores another ANOVA was performed. The age was divided into 7 equal groups and made into a category variable for ease of calculation

Two-way ANOVA table for Patient-Family member and Gender variables. Treatment group is Patient-Family member and Blocks are gender

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	368.97	1	368.97	60.24	<0.0001
Age	47.10	6	7.84	1.28	0.2742
P-F * Age group	44.54	6	7.42	1.21	0.3080
Error	526.73	86	6.12		
Total	937.34	99			

This table again shows that the interaction between age and SAI scores of patient and family members is non-significant and hence age do not influence the SAI scores. The following table states the correlation of the subscales of SAI to each other and also each other between patient and family members.

Correlations: Spearman's rho

		PT_ADH	PT_RECOG	PT_RELAB	PT_TOTAL	FM_ADH	FM_RECOG	FM_RELAB	FM_TOTAL
PT_ADH	Correlation	1.000	.111	.199	.012	.133	.071	.068	
	Sig. (2-tailed)		.444	.165	.900	.520	.350	.623	
	N	50	50	50	50	50	50	50	
PT_RECOG	Correlation	.111	1.000	.031	.078	.031	1.000	.098	
	Sig. (2-tailed)	.444		.925	.800	.832		.695	
	N	50	50	50	50	50	50	50	
PT_RELAB	Correlation	.199	.031	1.000	.025	.115	.145	1.000	
	Sig. (2-tailed)	.165	.925		.970	.426	.316		
	N	50	50	50	50	50	50	50	
PT_TOTAL	Correlation	.012	.078	.025	1.000	.025	.180	.131	
	Sig. (2-tailed)	.900	.800	.970		.832	.190	.345	
	N	50	50	50	50	50	50	50	
FM_ADH	Correlation	.133	.031	.115	.025	1.000	.191	.169	
	Sig. (2-tailed)	.520	.925	.441	.888		.295	.452	
	N	50	50	50	50	50	50	50	
FM_RECOG	Correlation	.133	.031	.145	.180	.191	1.000	.098	
	Sig. (2-tailed)	.520	.925	.441	.350	.316		.623	
	N	50	50	50	50	50	50	50	
FM_RELAB	Correlation	.071	.098	.169	.131	.169	.098	1.000	
	Sig. (2-tailed)	.623	.345	.169	.441	.316	.623		
	N	50	50	50	50	50	50	50	
FM_TOTAL	Correlation	.131	.098	.169	.131	.169	.098	.169	
	Sig. (2-tailed)	.441	.345	.169	.441	.316	.623		
	N	50	50	50	50	50	50	50	

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).



From the correlation table we can see that none of the scores of SAI and its subscales of patients has any correlation with the same of family members (the blue shaded part of the table). However, there is significant correlation of One Subscale score to another and also to the total score in both patient and family member groups.

SAI subscales scores adherence was similarly subjected to ANOVA test keeping Gender and Age-group as the dependent variables. In both the ANOVA test the

Two-way ANOVA table for Patient-Family member and Gender variables for **Adherence Subscale**. Treatment group is Patient-Family member and Blocks are gender

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	28.15	1	28.15	31.35	<0.0001
Gender	1.01	1	1.01	1.12	0.2921
P-F * Gender	0.00	1	0.00	0.00	0.9841
Error	86.21	96	0.90		
Total	115.37	99			

difference in the score was significant in patient and family members, but that was not for the gender. The interaction between the variables was found insignificant.

Two-way ANOVA table for Patient-Family member and Gender variables for **Recognition Subscale**. Treatment group is Patient-Family member and Blocks are gender

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	64.82	1	64.82	27.61	<0.0001
Gender	1.31	1	1.31	0.56	0.4571
P-F * Gender	0.40	1	0.40	0.17	0.6798
Error	225.36	96			
Total	291.88	99			

Two-way ANOVA table for Patient-Family member and Gender variables for **Relabelling Subscale**. Treatment group is Patient-Family member and Blocks are gender

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	52.05	1	52.05	40.68	<0.0001
Gender	0.98	1	0.98	0.76	0.3844
P-F * Gender	0.62	1	0.62	0.49	0.4868
Error	122.86	96			
Total	176.47	99			

Two-way ANOVA table for Patient-Family member and Gender variables for **Recognition Subscale**. Treatment group is Patient-Family member and Blocks are age groups

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	64.58	1	64.58	29.02	<0.0001
Age	16.14	6	2.69	1.21	0.3098
P-F * Age group	20.16	6	3.36	1.51	0.1846
Error	191.41	86	2.23		
Total	292.28	99			

Two-way ANOVA table for Patient-Family member and Gender variables for **Relabeling Subscale**. Treatment group is Patient-Family member and Blocks are age groups

	Sum of Squares	df	Mean Square	F	P-value
Patient-Family member (P-F)	38.55	1	38.55	28.29	<0.0001
Age	3.20	6	0.53	0.39	0.8830
P-F * Age group	4.46	6	0.74	0.54	0.7726
Error	117.18	86			
Total	163.38	99			



Association of Anxiety and Depression in Postpartum Period: a Hospital Based Evaluative Study

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ABSTRACT:

Background: Postpartum period is associated with higher rates for depression, blue and psychosis. Anxiety is also significant. These disorders may have serious implications in the cognitive development of the infant. Many symptoms of both disorders overlap with each other. There is relative lack of data in this area. We tried to estimate postpartum anxiety and depression in a group of women and tried to assess their correlation.

Material & Method: 100 women were assessed for depression and anxiety using Edinburgh Postnatal Depression Scale, Hospital Anxiety and Depression Scale, ICD-10 criteria. They were selected on random basis. Analytical statistical methods were utilized.

Result: 18% and 15% depression and anxiety were found respectively. Higher maternal age, parity, any post operative history correlated with it significantly. It was found that anxiety and depression are not associated significantly and are distinct categories. However 1% of variance of symptomatology of depression can be explained by anxiety and 20% of variance of symptomatology of anxiety can be addressed by that of depression.

Conclusion: Depression and anxiety are separate clinical conditions having significant prevalence in postpartum period. As anxiety, depression, psychosis all are increased in postpartum period a term 'Postpartum mood disorder' may be proposed. Using easy screening tools by the paramedical workers will help early detection of the cases and it will have long term effect on cognitive development of the infants.

Key words: anxiety, depression, postpartum

INTRODUCTION

Both anxiety and sadness are part of normal human behaviour. A person is said to be suffering from these disorders if he/she exhibits significant distress and impairment in functioning as a result of his/her symptoms for a specified period of time. The morbidity and mortality associated with anxiety and depression are considerable. Again their co morbidity is of particular interest. The associations between these disorders are explained by interaction of three systems of our body- neuroendocrine system, autonomic nervous system, and immune system. In the WHO primary care study, prevalence of depression and anxiety was 10.4% and 10.5% respectively as found

by Sartorius et al. 1996. Even if anxiety and depression are considered to be two distinct disorders clinician frequently find that they are inter related. According to Clark, anxiety and depression have been viewed as different points on the same continuum¹. In patients with lifetime depression, prevalence of a lifetime anxiety disorder is high (47% in Epidemiological Catchment Area Study; 58% in National Co-morbidity Study; and 57% in an earlier meta analysis)^{1,2,3}. Although pure anxiety without depression is more common than pure depression without anxiety, the prevalence of depression in anxiety is still high: 56% in the meta-analysis found by Clark¹.

Sichel and Driscoll, 1999 explained women's increased vulnerability to mood disorders at critical times in her life, such as puberty, childbirth or menopause by using his EARTHQUAKE MODEL for conceptualization of woman's mental health. Depression can result from long-term 'biochemical loading' as a woman's brain responds to repeated stresses in her life. Altshuler et al. remarked that, women in the childbearing age are vulnerable to mood

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and anxiety disorders, and physicians in all patient care specialties need to be familiar with the prevalence and course of these disorders, particularly during pregnancy and the postpartum period⁴. In a review Andrews 1999 discussed postpartum depression (PPD) as an irritable, severely depressed mood occurring within 4 weeks of giving birth and possibly as late as 30 weeks postpartum. Murray et al. in his review on postpartum depression commented that the growing interest in postpartum mental disorders is due to the negative impact on the child's emotional and cognitive development exerted by maternal psychiatric problem⁵.

Anxiety has received very little importance in the postpartum period, however lately it is gaining recognition. In a study Wenzel et al. 2003 found that 4.4% met DSM-IV criteria for generalized anxiety disorder, and an additional 27.9% endorsed sub-syndromal difficulties with generalized anxiety. Jones et al. 2001 commented that anxiety disorders with or without panic attack and obsessive symptoms might develop during postpartum period. Researchers found that 11% mothers met criteria for major depression during the first 4 months postpartum, and an additional 13% met criteria for probable depression at 5 to 9 months postpartum⁶. In contrast 7.0% of the large cohort had a visit or prescription for depression. Hence a large population does not get attention to their problem⁶.

Although few studies have been done in India in respect to postpartum depression, studies in relation to postpartum anxiety are scarce. Again in India for a long time Reproductive Child Health Programmes are going on but this aspect of maternal health and infant health is neglected till now. Considering these facts the present study was designed to find out the prevalence of depression and anxiety in postpartum period along with the association of these disorders to each other.

MATERIAL & METHOD

This cross-sectional study was conducted in Gauhati Medical College and Hospital, Guwahati, a premier health institute in the north-eastern region of India. The study sample comprised of 100 women giving birth to their babies at Gauhati Medical College and Hospital selected on simple random basis. The interview was conducted at the outpatient department of obstetrics and gynaecology when the mothers came for their regular postnatal check-up and immunization of their babies at 6 weeks postpartum.

Inclusion criteria

Study group

The subjects meeting the following criteria were included in the study cohort-

1. Women of 18-42 years age giving birth to their babies at Gauhati Medical College.
2. Women giving informed consent for the study.
3. Women were literate.
4. Married women.

Exclusion criteria

Women with the following criteria were excluded from the study

1. Known chronic medical illness like asthma, chronic painful condition, hypertension, diabetes, neurological disorders, and chronic gynaecological condition like white discharge per vaginum.
2. Known chronic psychiatric illness.
3. Known malignant condition.
4. Any history of substance dependence.
5. Any evidence of psychosis in the present postpartum period.
6. Patients receiving some medication continuously for last six months except for iron and folic acid supplements.
7. Any disability causing functional impairment.
8. Birth of a congenitally malformed baby.
9. Death of the newborn.
10. Death of important family members in last six months.

Sampling procedure

The women giving birth to their babies at Gauhati Medical College and coming for the routine postnatal check-up after discharge from hospital at 6 weeks postpartum comprised the study sample. The samples were taken as per systematic random sampling. In all cases a detailed history and mental status examination along with physical examination were carried out after the gynaecological examination done by doctors from department of obstetrics and gynaecology.

Tools used

1. A semi structured interview schedule for collecting socio-demographic and obstetrical data
2. Edinburgh Postnatal Depression Scale (EPDS): EPDS was designed specifically to detect Post Partum Depression, PPD⁷. It contains 10 self reported items, each scoring 0-3, depending on severity. A score of

