

Community Mental Health through Tele-medicine

An innovate strategy in the delivery of Mental Health Care

(SCARF Tele-psychiatry in Pudukottai Program: STEP)

Annual Report

**Submitted by
Schizophrenia Research Foundation
(Chennai)**

**To
Tata Education Trust**

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Introduction & Background

The Schizophrenia Research Foundation has been involved in the care and treatment of patients suffering from Chronic Mental Illness for the past twenty nine years. The services focus on rehabilitation, public education, research and community mental health (CMH). CMH encompasses family intervention and counselling, training of mental health professionals and community level workers (CLWs) and community outreach programmes. The outreach programs include running community clinics, conducting awareness programs and community based rehabilitation.

SCARF greatly expanded its community outreach program following the August 2001 tragedy at Yerwadi, in Tami Nadu where 26 mentally ill persons were charred to death because they were kept chained at the religious treatment facility. This incident reinforced SCARF's belief the need to educate people in the community about mental health.

Studies from Tamil Nadu have revealed that there are substantial numbers of patients with schizophrenia, especially in rural communities, who remain never treated. The reasons for non-treatment include non-availability of psychiatric care services in their areas, difficulty in accessing the needed services due to the remoteness of their residence, the expenses and time spent to reach service providers, the cost of medicines, lack of awareness about treatment available, stigma and ignorance about mental illness.

In an effort to address these issues SCARF has harnessed the technology of Tele-Medicine. The main advantages of using telemedicine are that it optimizes scarce resources such as trained mental health professionals, maximizes geographical coverage and ensures access to specialists' services and thereby enhance the quality of the service.

The present program supported by the Tata Education Trust has focused on delivering community mental health program through Tele-Medicine to reach out to the rural population of Pudukottai district in Tamil Nadu.

The specific objectives of the program are

1. To provide mental health care to persons in remote areas in Tamil Nadu using the tele-medicine facility/network –i.e in four taluks of the Pudukottai district of Tamil nadu.

2. To liaise with existing local NGOs in the community to provide this service. This would include training their staff/SHG members to, promote identification, initiate early treatment and referrals of persons with mental health problems.
3. Strengthen the referral system for rehabilitation of the mentally disabled.
4. Create public awareness at the Community and Individual Level about mental health problems, which will facilitate early identification and prompt treatment.
5. Empower and train the families and users in the psycho-social management of the illness, facilitate rehabilitation and reduce disability.
6. To create a standardized reporting format to enable periodic analyses to fine tune the program
7. To study the effectiveness of the use of “tele-psychiatry” in the delivery of mental health services to rural and remote areas of the state of Tamilnadu, which have limited or no mental health services.
 - a) To study the prevalence of psychotic disorders in the community.
 - b) To identify the profile of users and non-users of the tele-psychiatry services.
 - c) To study the course & outcome of interventions provided through mobile tele-psychiatry and compare this with a fixed line tele-psychiatry centre.

Activities undertaken under the project

The project commenced on 1st April 2010

The activities completed during the first 2 years (2010-2012) of the program are

1. Recruitment of staff
2. Training of recruited staff
3. Upgrading tele-psychiatry equipment at the central hub at SCARF, Chennai.
4. Identification of Local partner NGOs and training of their staff
5. Awareness creation in the program area
6. Starting two new fixed line tele-psychiatry clinics in the identified project area.
7. Mobile tele-psychiatry clinic – preparatory work
8. Integration of the Nagapattinam clinic with DMHP
9. Commissioning a computer program for medical records to enable regular analysis to restructure program appropriately
10. Research : recruitment of staff, training, translating and piloting study instruments, conducting pilot study, survey, quality control
11. Provision of psychiatric consultations through fixed line tele-psychiatry services
12. Conducting mobile tele-psychiatry clinics

13. Conducting family empowerment programs
14. Conducting awareness programs
15. Completion of survey
16. Follow-up of patients
17. Computerization of clinic records and pharmacy

The activities undertaken for the current reporting year (2012-2013) are

1. Conducting psychiatric clinics through fixed line tele-psychiatry services
2. Conducting mobile tele-psychiatry clinics
3. Home visits by psychiatrists
4. Conducting family empowerment programs (FEP)
5. Conducting awareness programs
6. Disability certification
7. Research

1. Conducting psychiatric clinics through fixed line tele-psychiatry services

Two sites, one each in Avudaiyarkovil and Thirumayam have been functional since 19th Oct 2010 and 29 Nov 2010 respectively. The Avudaiyarkovil taluk clinic is conducted once a week on Tuesdays while the Thirumayam tele-clinic is conducted on every Monday.

The clinics at the peripheral units are handled by trained staff. They screen all patients attending the clinic with a modified screening tool, then register them at the clinic if they have psychotic symptoms. Others are referred to other appropriate sources. A brief history is taken and vitals such as blood pressure, height, weight, etc were also captured and communicated to the psychiatrist at SCARF Chennai. All records are maintained in a software that has been specifically designed for the program.

Medication as prescribed by the psychiatrist is dispensed by the team from the clinic pharmacy. The details are recorded in a drug card issued to the patient for their reference. The details are also maintained in the stock register at the respective sites.

As part of improving care patients are also screened for blood sugar levels using rapid spot tests. Apart from this patients are also assessed for blood pressure, weight and body mass index (BMI) during the clinic visit.

The following medicines have been procured and stocked at the peripheral tele-psychiatry centres.

S.No	List of medicines procured for the program
1	Chlorpromazine 50 mg
2	Chlorpromazine 100 mg
3	Haloperidol 1.5 mg
4	Haloperidol 5 mg
5	Risperidone 2 mg
6	Risperidone 1 mg
7	Olanzapine 5 mg
8	Trihexyphenidyl 2 mg
9	Nitrazepam 5 mg
10	Carbamazepine 200 mg
11	Amitryptiline 25 mg
12	Trifluoperazine
13	Inj. Flupenthixol
14	Inj.Phenergan 25 mg
15	Inj.Haloperidol
16	Olanzapine (Mouth Dissolving) 5 mg
17	Clonazepam 0.5 mg
18	Fluoxetine 20 mg
19	Sertraline 50 mg
20	Quetiapine 50 mg
21	Sodium Valporate 250 mg
22	Sodium Valporate 500 mg
23	Clozapine 50mg
24	Clozapine 100mg
25	Bcomplex
26	Autrin (iron supplement)
27	Spot test strip for blood sugar
28	Disposable syringes & needles

Details of the two fixed line clinics (Cases & Number of tele-psychiatry clinics).

Name of taluk	Start date of clinic	No. of clinics conducted during current reporting year (2012-2013)	Total No. of clinics conducted since start of clinic	No. of new patients reg. during current reporting year (2012-2013)	Total No. of patients registered since start of clinic
Avudaiyarkovil	19 Oct 2010	52	124	124	278
Thirumayam	29 Nov 2010	49	115	131	285
Total		101	239	255	563



*Dr. Mohan
Isaac at the
fixed line clinic
during the mid-
term evaluation
visit by TET in
July 2012*

2. Conducting mobile tele-psychiatry clinics

A mobile tele-psychiatry vehicle was built to order by M/S Ashok Leyland Ltd based on the design specifications given by SCARF. The custom made bus includes a sound proof and private consultation room with state of the art videoconferencing equipment to enable psychiatric consultation, computerized medical records facility and a computerized pharmacy. The bus also has a public address system and plasma screen which will enable it to conduct awareness and education programs in the villages. Other features include a ramp and wheel chair to enable disabled persons to also access care. It has its own generator and also has the facility to draw power from households if required.

Mobile tele-psychiatry clinics were started on 12 May 2011 at Gandarvakottai taluk. They are conducted twice a week on Tuesdays and Thursdays at two different locations in the taluk. Mobile clinics were started in Alangudi taluk on 17 Jun 2011. They are also conducted, twice a week on Wednesdays and Fridays at two places.

The reach of our mobile tele-psychiatry clinics have been restricted by the fact that we have been unable to procure VSAT connectivity from ISRO as originally envisioned. This has been due to an unexpected series of events starting with the launch failures of satellites on which we were to be provided the link and the subsequent changes at ISRO wherein the Antraix department (that deals with telemedicine) was transferred from

Bangalore, ISRO HQ to Ahmedabad. This resulted in us having to restart the whole process with the Ahmedabad office of ISRO. We have been regularly following up this with them but are yet to receive a final response from ISRO. As the possibility of receiving the uplink facility looks very bleak in the near future we have explored and identified alternative technologies to bridge this gap.

We have started conducting the tele-clinics using 3G wireless broadband connections. As mentioned earlier this severely restricts the reach of our service as we are able to deliver these only where adequate signal strength is available. Despite these handicaps we have still managed to conduct 4 clinics a week at 4 different locations in the 2 taluks.

Details of the Mobile clinics (cases & number)

Name of taluk	Start date of clinic	No. of clinics conducted during current reporting year (2012-2013)	Total No. of clinics conducted since start of clinic	No. of new patients reg. during current reporting year (2012-2013)	Total No. of patients registered since start of clinic
Gandharvakottai	12 May 2011	96	162	131	305
Alangudi	17 Jun 2011	101	157	161	301
Total		197	319	292	606



A mobile tele-psychiatry clinic in progress

3. Home visits by psychiatrists

About 60-65% of the mentally ill patients identified in the program areas have now accessed the tele-psychiatry service. But a good 35-40% are yet to be reached. Analyzing the profile of those who are yet to reach the clinics reveal that they are more disabled and have more severe illness (than those who have reached) which prevents them from travelling and being brought for treatment by their families.

In an effort to bridge this gap SCARF decided to organize field visits by psychiatrists in the four taluks to conduct face to face consultations with these patients by visiting them at home. Apart from this the psychiatrist would also see patients in instances where a clear diagnosis could not be made for some of the patients through tele-psychiatry.

Subsequently home visits have been conducted in all the four taluks during the current reporting year (2012-13)

Details of home visits by psychiatrist

Name of taluk	No. of home visits conducted by psychiatrist during current reporting year (2012-2013)	No. of patients seen during current reporting year (2012-2013)
Avudaiyarkovil	2	16
Thirumayam	2	23
Gandharvakottai	2	28
Alangudi	2	18
Total	8	85

4. Conducting family empowerment programs (FEP)

As part of the comprehensive psychiatric services that is being delivered in Pudukottai district an integral element is the Family Empowerment component. These have been conducted in all the four taluks covered by the program.

The topics of the FEP have primarily focused on educating the family members about the illness, regarding signs and symptoms, the general course of illness and outcome. The issues covered included the need for compliance to treatment and compliance management strategies and dealing with distressing symptoms such as violence, dis-inhibited behavior, etc. Various activities that could be done at home to improve negative symptoms and improve the functioning of patients were also discussed.

During the reporting year 36 FEPs were organized across the 4 taluks where 512 family members of the patients attended.

We have seen that the socially and educationally disadvantaged families of patients are more comfortable with one-on-one sessions rather than structured group sessions. As such a lot of FEP activities have been carried out during clinic visits and during the home visits conducted by the project team as part of their regular follow-up activity.

Details of Family Education Programmes

Taluk	Number of FEPs conducted in the reporting period (2012-2013)	Total Number of FEPs conducted	No. of family members who attended		Total
			Male	Female	
Avudaiyar Kovil	10	15	87	65	152
Thairumayam	8	12	48	69	117
Gandharvakottai	8	12	56	63	119
Alangudi	9	15	52	72	124
Total	36	54	243	269	512

5. Conducting awareness programs

Standardized information was disseminated in a structured manner to create the awareness about mental illness and available services. The techniques used for creating awareness included putting up skits, audio visual presentations, lectures, screening of films specially created for spreading awareness, putting up posters and distributing pamphlets

The Mobile telemedicine vehicle which was designed keeping in mind its potential for awareness creation, and towards this end a large plasma TV screen has been installed with speakers and public address system.

In the current reporting year (2012-2013) 440 awareness programs were conducted covering about 13202 individuals. In all 642 awareness programs have been conducted till date and 29, 44 individuals reached.



An awareness rally on mental health with school children in Pudukottai

An awareness program organized in the community



A small group awareness program being conducted

6. Disability certification

During the course of the last 3 years SCARF has been providing treatment and care to 1132 mentally ill persons. ***But not a single patient out of the 1132 seen at the tele-psychiatry clinics in the four taluks had a disability card or access to disability benefits at time of registration.*** Several of them have chronic illness and despite improvement in their symptoms continue to be functionally disabled. Where possible they have been integrated with governmental schemes such as the NREGA but a section of them are unable to utilize these benefits as they are extremely disabled and are eligible for disability benefits.

SCARF in August 2012 was authorized by the Govt. of Tamil Nadu to issue disability certificates for intellectual disability in districts where it runs clinical services. Consequent to this SCARF conducted disability camps in two of the four taluks of Pudukottai. These camps were conducted by a psychiatrist from SCARF along with the field staff and local NGO. 69 patients were certified by the SCARF psychiatrist during these special clinics.

Apart from this SCARF has also been working with the district disability service and the government hospital at Pudukottai to conduct mental disability camps and clinics. After a lot of negotiations SCARF succeeded in reaching an understanding with the district hospital when the resident psychiatrist agreed to certify 2 patients a week. As of date of 49 patients have been certified through the govt psychiatrist posted at the district head quarters hospital at Pudukottai.

118 patients in all have received the disability certification during this reporting period.



Disability clinics being conducted in Pudukottai district



Details about the disability certification

	Certified by SCARF	Certified through Govt. service	Total
Avudaiyar Kovil	41	6	47
Thairumayam	28	15	43
Gandharvakottai	-	15	15
Alangudi	-	13	13
Total	69	49	118

7. Research

The overall aim of the research component built into the program was to study the effectiveness of the use of “tele-psychiatry” in the delivery of mental health services to rural and remote areas of the state of Tamilnadu, which have limited or no mental health services.

The specific expected outcomes from the research were to gain

- Knowledge regarding prevalence of major psychotic disorder in the community.
- Knowledge about the utilization and reach of the telemedicine program
- Knowledge about the efficacy of treatment through telemedicine.

Results of the research conducted

Knowledge regarding prevalence of major psychotic disorder in the community.

Prevalence of SMD	No.	%
No	154116	99.7
Yes	423	0.3
Total	154539	100

Sex	Prevalence of SMD				Total	
	No		Yes			
	N	%	N	%	N	%
Male	77871	99.7	198	0.3	78069	100.0
Female	76245	99.7	225	0.3	76470	100.0
Total	154116	99.7	423	0.3	154539	100.0

Age classified	Prevalence of SMD				Total	
	No		Yes			
	N	%	N	%	N	%
0-15 yrs	39874	100.0	2	0.0	39876	100.0
16-30 yrs	45273	99.8	91	0.2	45364	100.0
31-45 yrs	34656	99.5	190	0.5	34846	100.0
46-60 yrs	22318	99.6	99	0.4	22417	100.0
61 Above	11995	99.7	41	0.3	12035	100.0
Total	154116	99.7	423	0.3	154539	100.0

Marital Status	Prevalence of SMD				Total	
	No		Yes			
	N	%	N	%	N	%
Married	73802	99.7	229	0.3	74031	100.0
Never married	37204	99.8	90	0.2	37294	100.0
Sep/Divo	1089	95.2	55	4.8	1144	100.0
Widow	10495	99.5	48	0.5	10543	100.0
NA	31526	100.0	1	0.0	31527	100.0
Total	154116	99.7	423	0.3	154539	100.0