

Designing and implementing an innovative digitally driven primary care psychiatry program in India

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ABSTRACT

Background: Primary Care Doctors (PCDs) are the first contact for majority of patients with psychiatric disorders across the world including India. They often provide symptomatic treatment which is naturally inadequate. Absence or inadequate exposure to psychiatric training during undergraduate medical education is one of the prime reasons. Classroom training (CRT), a standard practice to train PCDs is driven by specialist based psychiatric curriculum and inherently lacks clinical translational value.

Aim and Context: The ‘Department of Psychiatry’ of ‘National Institute of Mental Health and Neurosciences’, Bengaluru, India has recently come up with an innovative digitally driven modules of ‘Primary Care Psychiatry Program’ (PCPP) for practicing PCDs. Goal of this paper is to provide an overview of all these (five) modules with its various stages of implementation.

Methods: Authors briefly discuss the current status of primary care psychiatry in India and also narrate the newly designed five modules of PCPP in this paper.

Results and Discussion: An adopted psychiatric curriculum is designed in ‘Clinical Schedules for Primary Care Psychiatry’ (CSP) which is an integral part of PCPP. This is brief clinical schedules contains culturally appropriate screening questionnaire, transdiagnostic classification of 8 core psychiatric disorders, diagnostic, referral and management guidelines. PCPP contains 5 modules named as orientation module, basic module, advanced module [Tele-psychiatric ‘On-Consultation Training’ (Tele-OCT)], videoconference based continuing skill development module, and collaborative video consultation modules which covers all essential areas of primary care psychiatry for practicing PCDs. Last three modules are fully designed digital modules in hub and spoke model of Tele Medicine. In this designed program, the CSP and Tele-OCT are two path breaking innovations having inbuilt higher clinical translation value. The challenges and opportunities that could be faced during its implementation across India are also discussed.

Conclusion and Future Directions: Innovative PCPP is pragmatic in nature and has potential for higher clinical translational value. Once validated thoroughly, PCPP has potential for pan-India expansion. There is a need for artificial intelligence-based modules for next phase of PCPP in India considering her population and lesser number of available psychiatrists.

Key words: Clinical schedules, India, on-consultation training, primary care physicians, psychiatry, tele-psychiatry

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INTRODUCTION

The term “Primary care” means the provision of healthcare at first contact and for continuity of care which will be nearer to their home. Patients usually contact their nearby health-care provider for the treatment. One of the important health-care providers at primary level are doctors working at government’s primary health centers (PHCs) and small clinics, are commonly called as general practitioners, family physicians, and family doctors, in India, whereas, at developed countries called as primary care physicians. For the sake of uniformity throughout this paper, henceforth author use “Primary Care Doctors” (PCDs) to denotes these doctors providing at primary care.

Psychiatric disorders are major contributors to the global health burden.^[1,2] Up to 90% of persons with mental disorders in low- and middle-income countries do not receive even basic psychiatric care.^[3,4] In India, the prevalence of psychiatric disorders in recently concluded “National Mental Health Survey” from nationally representative adult population is 10.6%. This survey also reports the treatment gap is more than 70% for all psychiatric disorders.^[5]

CURRENT STATUS OF PRIMARY CARE PSYCHIATRY IN INDIA: FOCUS ON TREATMENT GAP, CURRICULUM, TRAINING AND MANUALS

Primary care settings encounter significant proportion of common mental disorders (CMDs) in India which conventionally includes the triad of depressive, anxiety and somatization disorders ranging from 17% to 46% of patients.^[6,7]

The term ‘treatment gap’ needs to be understood differently from the perspective of primary care. For example, existing definition refers to the proportion of eligible people not being able to access treatment. This may be called as ‘apparent treatment gap’. From the perspective of primary care, there exists another variety of treatment gap: this may be termed as ‘functional treatment gap’. i.e., sufferers of psychiatric disorders reaching primary care with one or the other physical symptoms. Such patients though receive symptomatic treatments, go unrecognized (the psychiatric disorders per se) leading to either wrong or under treatment. In reality, PCDs consistency fail to diagnose and treat 50 to 75 per cent of CMD patients in their clinical settings.^[8-11] Obviously, this is an issue of public health importance. There are several reasons for this functional treatment gap. PCDs are not fully trained to diagnose and/or treat these CMDs.^[12] Specifically in India, there is a lack/absence of psychiatry training during undergraduate medical education and internship.^[13,14] There is inadequate knowledge about the diagnostic criteria of CMDs, lack of awareness about the appropriate questions to ask and time limitations inherent in a busy clinic setting.^[15]

To reduce this functional treatment gap, many innovative programs in India have been implemented to integrate psychiatry in primary care such as District Mental Health Program (DMHP), Manochaitanya program in Karnataka state^[16] with limited success.^[17] Author discuss briefly about current status of classroom training (CRT), psychiatric curriculum and manuals in the existing primary care psychiatry programs below.

a. Classroom training: Lacks pragmatism

Existing classroom training (CRT) of PCDs are often criticised as ‘seen to be doing something’ programs for sake for administrative necessity than bringing real value in changing clinical practice at primary care.^[18] Often these, CRTs are conducted in classroom settings for a group of 20-40 PCDs for about 1 to 3 days and no continuous support of follow-up. Teaching methodologies used often are theory classes delivered in formats of didactic lectures, interactive sessions, case vignette discussions, power point presentations mixed with video demonstrations with heavy use of technical jargons. Often manuals of psychiatry are provided to all PCDs. The criticisms of CRT are briefed in Box 1 below.

b. Absence of adopted curriculum for primary care psychiatry

Curriculum for PCDs is often the extrapolation of specialty based psychiatric issues.^[18] Specifically, the curriculum is not adopted for primary care use and is skewed towards severe mental disorders (SMDs) than common mental disorders (CMDs).^[19] Often trainers focus heavily on SMDs, but primary care are represented by CMDs; naturally PCDs are not inclined towards primary care psychiatry. Authors submit that an ‘integrative model’ would be best suited for CMDs & SUDs especially alcohol and tobacco disorder while ‘collaborative model’ could be better for SMDs.

Box 1: Critical analysis of Classroom Training of Primary Care Doctors

1. CRTs are being conducted by trainers who are psychiatrists (often teaching faculties or practicing psychiatrists who lack the knowledge of ground reality of primary care). They often deliver tertiary care psychiatry to the trainees rather than primary care psychiatry.
2. Often trainers are criticized for their top-down authoritarian approach during training sessions.
3. Knowledge enhancer than skill enhancer: Focus heavily to increase the awareness/ knowledge of psychiatry than bringing real clinical skill translation among PCDs.
4. Poor translation quotient: The ‘translation quotient’ of a training program can be defined as ability of a training program to translate learnt/taught knowledge into clinical skills required for use in during the routine busy clinical practice. This quotient is the most crucial requirement for early diagnosis and first line treatment at primary care level by PCDs. This quotient is said to be questionable in CRTs
5. Principles of adult learning are conspicuously absent in CRTs. Hence, they have low acceptability and generalizability.

c. Manuals lacks pragmatism

There are many psychiatric training manuals for PCDs,^[20-23] but are complex and are not suitably adapted for the needs of primary care psychiatry. These existing manuals are just shorter forms of textbooks of psychiatry.^[19] For PCDs with no or little previous exposure to psychiatry, these intricate details could be overwhelming with inherent difficulty in integrating the knowledge into their clinical practice.^[18] Hence, there are good chances that PCDs would not have opened and read these manuals.

Author brief about two existing manuals. First, Mental Health Gap intervention guide^[24] is a 121-page comprehensive manual for use of non-specialized settings. It is an ideal, but a complex manual and has illnesses such as dementias which are too difficult for PCDs to manage at primary care level at this phase of implementation, but it does not include tobacco use disorders, which are probably the most common psychiatric disorders encountered in primary care. PCDs friendly illnesses are the illnesses which confront them frequently, easy to manage in busy consultations, and for those, effective treatment by medications are available. Second manual, Primary care version of ICD-10 mental and behaviour disorders from World Health Organization rarely discussed in context of NMHP^[25] and limited from heavy interpreted from psychiatrist's perspective and contains outdated management guidelines. Hence, there is need of pragmatic, culturally appropriate, adopted manuals which contains screener, adopted classification of psychiatric disorders for use of primary care, diagnostic and management guidelines.

SOLUTIONS FOR PRIMARY CARE PSYCHIATRY: NEED FOR INNOVATIONS

In addition to the issue of treatment gap, there is also huge shortage of mental health professionals causing specialist deprived psychiatric care in India.^[26-28] Bridging this burgeoning treatment gap is thus one of the important public health concerns of our country. Training and empowering PCDs is a pragmatic way to achieve this big goal.

To address this public health issue, the Department of Psychiatry at National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, India, a pioneering institute for neuropsychiatric care in India, recently designed an innovative approach and path breaking five modules based and digital driven primary care psychiatry program (PCPP) dedicated for PCDs, that seeks to overcome above criticisms of existing PCPPs. The 'Clinical Schedules for Primary Care Psychiatry' (CSP) and 'On-Consultation Training' (OCT) are two innovative initiatives of this program are noteworthy for discussion in this article. Five modules of PCPP are at different stages of its implementation across India.

Goal

The goal of this paper is to give an overview of two path-breaking innovations, CSP and OCT with its feedback analysis.^[29,30] At the end, five different modules of PCPP with the status of its implementation across India are briefed.

CLINICAL SCHEDULES FOR PRIMARY CARE PSYCHIATRY

Primary care psychiatry team intended to design and develop psychiatric curriculum in phase-wise manner for PCPP depending on its acceptance, feasibility, and implementation. The psychiatric curriculum used in its latest version its phase I. The goal of this section is to provide the evolution of different versions, content, principles used in designing CSP. The rationale to design and develop phase-wise curriculum of primary care psychiatry is under preparation and is beyond the scope of this paper. Validation research of CSP at primary care has just concluded and analysis is underway.

Evolution of different versions

With the first-hand working experience of one of the authors (NM) in IP-OCT of PCDs in various extension clinics (discussed later) lead to draft CSP version 1.0 and was finalized by the consensus of two authors (NM and JT). Drafted version was piloted by residents and nursing staff at the outpatient clinic of Sakalawara Community Mental Health Center, NIMHANS and findings were incorporated in final version 1.0 (in October 2016).^[31] The Department of Health and Family Welfare Services, Government of Karnataka adopted this version as "treatment card" for the use of PCDs under DMHP across the state. Meanwhile, the first author extensively used CSP version 1.0 in various training sessions of PCDs of various districts under DMHP of Karnataka. Verbal and questionnaire-based feedback from many PCDs and DMHP psychiatrists from this training sessions were incorporated in version 2.0 (in June 2017).^[32] All authors involved subsequently in later versions 2.0 (June 2017) and 2.1 (October 2017).^[33] Latest version 2.1 is revised with peer reviewed comments who are experts working in Australia and India in the area of community psychiatry and also from PCDs of three states of India who attended training programs conducted by first author (NM). Finally, the first-time prescription templates of common psychiatric disorders are added to version 2.1 (on request of a group of PCDs) for enhancing the confidence of PCDs in writing prescriptions during their consultations. Version 3.0 is under preparation. In brief, the latest version 2.1 has undergone user review (i.e., PCDs) and peer expert review and extensively used as integral part of Tele-OCT sessions of PCDs. Copies of all versions are available on request.

Contents of clinical schedules for primary care psychiatry

CSP is an adopted version of psychiatry for the use of PCDs for rapid screening and to provide early diagnosis and first-line treatment in an outpatient setting for adult patients of primary healthcare. This runs six pages (in print copy)/8

pages for a PDF document. CSP uses transdiagnostic, cluster approach for diagnosis, and pharmacological approach for the treatment purpose. This schedule consists of introduction section and concise guidelines for screening, classification of psychiatric disorders, diagnostic, treatment, follow-up, and referral guidelines. It also has guidelines for the management of comorbid medical illness and perinatal psychiatric disorders. The list of psychiatric disorders covered in CSP 2.1 are Tobacco addition, Alcohol disorders, Psychotic, Somatization, Anxiety (generalized anxiety and panic disorders), and Depressive disorders (Mnemonic for this list is TAP SAD). Introduction section contains expectation of PCDs and how they can change their prescription habits to get psychotropics into their clinical psyche.

Principles incorporated in clinical schedules for primary care psychiatry

There is a list of expectations from PCDs. These are need for quick screening/referral, rapid diagnosis, provide first-line treatment, and to provide routine follow-up for continuity of care.

PCDs friendly prescription-based integration model is incorporated (as doctors understand prescription better than anything else) by providing a list of symptomatic medications.

Part I – Case record section has PCDs friendly clinical algorithms. This section essentially consists of common criteria that help in eliciting symptoms followed by a search of signs on physical examination leading to known medical illnesses. If PCDs are confident of known medical illnesses for a particular patient, he/she is suggested to proceed with his/her treatment plan. On the other hand, if a PCD is confident of the absence of medical diagnosis, then, the algorithm is used. Here, 2 weeks' duration criteria are used to differentiate subclinical and clinical psychiatric disorders. If any symptoms/signs do not follow standard medical diagnoses with <2 weeks' criteria, patients are reassured and advised for repeat consultations later, if symptoms persist.

If symptoms/signs of illness persist for 2 weeks or more, PCDs are advised to screen for possible psychiatric disorders with 21 items (CSP screener; culturally appropriate questionnaire; and covering eight core psychiatric disorders). Furthermore, the screener incorporates blended reference model (means some items to be asked with patients, some with family/friends, and some are for clinical interpretation of PCDs). Screening begins with sleep, appetite, and recent changes in work interest. Subsequently, items are arranged for each psychiatric disorder, often covering the core symptoms of particular psychiatric disorder arranged from objective to subjective questions (e.g., depression, "have you been feeling sad," is the last item for depressive disorder). This arrangement is thought in view of the poor psychological sophistication of patients in the developing countries. Each

item is provided with yes/no option. Another highlight of this screener is that an anchor toward to particular disorder is provided in cases where "yes" answer to any item of particular disorder is provided, that is, if a "yes" answer is provided to any of the screeners, it is suggested to check for diagnostic criteria for that particular disorder.^[34] This serve one important clinical need in our culture, it is observed that a patient may not understand a particular item in screener, for example, patients of alcohol addiction may respond "no" to item "Are you drinking alcohol heavily or regularly" in view of wide variety of meaning for this item or because of shame, but same patient may respond "yes" to subsequent items which are more of physical symptoms-related items. Diagnosis may not be missed in such instances.

Diagnostic and investigation guidelines covered adequately to exclude the possible organic illnesses. Diagnostic criteria of psychiatric disorders are mentioned with minor changes in CMDs and major changes in addiction criteria. For example, phrase "tension," "anxiety," and "nervous" used along with worries in GAD since many of our patients do not understand the phrase "worry," but understand terms such as "tension," "anxiousness," and "nervous." Duration criteria of somatization disorder are reduced to 6 months, and completely new diagnostic criteria for alcohol harmful and addiction disorder and tobacco use disorder is proposed.

Treatment guidelines cover essential features inherent in psychopharmacology such as onset of treatment action should not be expected before 2 weeks, never stop medications before 6 months if response occurs in 1 month (except in emergency). Referral to psychiatrist, if the response does not occur with psychotropic medications within 1 month of its use. The general guideline is to choose first-line medications with probable course of the treatment duration. Briefed about counseling which essentially psychoeducation. List of time-tested commonly used antidepressants and antipsychotics is given with dosage for PCDs use and the dosages used by psychiatrists to enhance the confidence of PCDs.

In view of widespread therapeutic nihilism in addiction treatment among doctors, a box containing natural course of alcohol and tobacco addiction is provided with emphasis of the need for many abstinent attempts and with no coercion to begin treatment. Along with standard treatment for alcohol addiction, Sinclair method is advised for the frequent type of harmful alcohol use.^[34]

ON-CONSULTATION TRAINING

Concept of "On-Consultation Training"

As the name denotes, OCT is an on-the-job/hand-holding training conducted in live, real-time clinical scenario where PCDs are providing consultations to their randomly selected general patients. This will also most

extent eliminate selection bias of patients for training. Furthermore, disruption to their clinical work will be minimal. This incorporates the principle of “real patients, real consultations, but with new clinical practice acumen.” The main goal of OCT is to maximize the quality of general practice of PCDs with the provision of standard psychiatric care to patients with psychiatric disorders. It is first of its kind, translational clinical training program. In other words, OCT has in-built direct skill transfer mechanism.

Evolution of on-consultation training and its variants

The first author (NM) involved himself during 2014–2015 in providing collaborative care with PCDs at psychiatric extension clinics on every Tuesdays as a part of GOK-NIMHANS super-Tuesday Manochaitanya Clinics at taluk general hospitals (Anekal, Kanakapura, Maddur, Madhugiri, and Gauribidanur) and PHCs (Gunjur and NPK).

In-Person On-Consultation Training (2015–2016)

On realizing its potential, the first author began OCT in pilot mode during the year 2015–2016 as a co-location training model (in-person variant) with PCDs attending these extension clinics. This in-person OCT (IP-OCT) was conducted in an unstructured way with all attended PCDs. About 100 hours of experience was gained from about 35 PCDs covering about 25 IP-OCT sessions. Verbal feedback from each of the PCDs during these IP-OCT sessions found that OCT is an acceptable, realistic, and a feasible model that could be replicated at their primary care clinics. This model's translational quotient was also thought to be higher. This effort paved the way for two more innovations in primary care psychiatry (PCP) in India (CSP and Tele-OCT) later on.

Limitations, challenges and potentials of in-person on-consultation training sessions

The experiences gained were from biased unmatched samples of psychiatric patients attending extension clinics which are known to the public as “psychiatry-camps” for many decades. Hence, in a way, this model was still away from matching real primary care general patients. Another major challenge was to get acceptance among trainer psychiatrists.

Solution to overcome these major limitations of in-person on-consultation training

In order to eliminate selection bias, the first author started conducting IP-OCT choosing patients randomly at Maddur extension clinic as part of super-Tuesday Manochaitanya clinic in a couple of camps. For all practical purpose, the patient population of general taluk hospitals (located at subdistrict levels) replicates the patient population of an ideal primary health-care centers as referral system is almost nonexistent in India. Solutions to other challenges are briefed in the next section.

RAISE OF TELE-PSYCHIATRIC ON-CONSULTATION TRAINING (2016–2017): AN INNOVATIVE MODEL TO INTEGRATE PSYCHIATRY INTO PRIMARY HEALTH CARE

Evolution of Telepsychiatric On-Consultation Training (Tele-OCT) program

The pilot of Tele-OCT began from August 28, 2016, at Maddur general hospital of Mandya district of Karnataka. Mandya district has 7 Taluka (a local administrative block, subdistrict level) hospitals and 115 PHCs. Available videoconference-based telemedicine facility at Maddur General Hospital was used to simulate OCT sessions in subsequent extension clinics with randomly selected patients from the general outpatient pool. This led to smooth transition from IP-OCT to Tele-OCT which addressed the challenge of travel of trainer psychiatrists. In this process, acceptance among PCDs and technical feasibility of Tele-OCT could be demonstrated in couple of sessions.

The next and final challenge was to expand tele-OCT to PCDs of other places. Administrative approval was taken from the local health authorities. Available laptops and internet connectivity at the taluk general hospitals were used for expansion of tele-OCT sessions at these places. Eventually, Tele-OCT is being successfully conducted to PCDs of all taluks at all taluk general hospitals of Mandya district of Karnataka on every Tuesday. Initially, taluk hospitals with better internet connectivity were chosen. However, gradually PCDs selected their own PHCs for tele-OCT.

Principles used in Telepsychiatric On-Consultation Training

- Principles of adult learning (Andragogy)^[35,36]
- Bottom-up approach (where each and every clinical skill is taken care separately from entry to exit of patients. This also includes personalized prescription writing) and counseling with a discussion of personalized plan of follow-up for every patient
- Entry to Exit (E2E) consultation approach with minimal disruption of PCDs' clinical work. Each consultation would last for about 5–10 min which is maximum a PCD can spend time in their regular consultations in India
- The principle of equal partnership: Since all patients are taken care in tele-OCT sessions where 50:50 chances of psychiatric and nonpsychiatric patients are present during consultations. Two-way communication, i.e., telepsychiatrists will train PCDs and PCDs also will provide inputs regarding nonpsychiatric patients to the telepsychiatrist.

Format of Telepsychiatric On-Consultation Training

CSP is an integral part of Tele-OCT and is used extensively during every consultation. Nothing other than CSP is discussed in sessions to make training more structured.

Telepsychiatrist will participate in Tele-OCT using video-conference technology in hub and spoke model of TeleMedicine. Hub Telepsychiatrist is at TeleMedicine Centre, NIMHANS and spokes PCDs will be at taluk hospitals or at their outpatient of PHCs. A regular laptop or even a smartphone-based videoconference with available regular broadband internet connectivity is all that is required. A state of art video conference facility is present at studios of Telemedicine Centre, NIMHANS. Over a period, PCDs provided feedback that three sessions are optimum for them. Tele-OCT is conducted in three sessions for each pair of PCDs. Each session runs for about 3 h covering about 10–15 patients. For each PCD, The first session is introductory in nature, the second contains training proper, and the third is the consolidation session.

Contents of Telepsychiatric On-Consultation Training sessions

1st Introductory session: Rapport establishment, discussion about reality and myths about PCP, discussion about CSP, and finally observing and demonstrating psychiatric consultations using CSP screener in about 5–10 patients (Psychiatrist talks more than PCDs). Google forms survey is done to assess about their experience on acceptability, utility, perceived benefits, and replication quotient.

2nd Training Proper session: Discussion begins with feedback about the application of skills learned in the first session and then OCT for about 10–15 patients (PCDs and telepsychiatrist talk equally).

3rd Consolidation session: Discussion begins from their application of skills in their regular practice, then fine-tuning clinical skills in another 10–15 patients (PCDs talks more than Telepsychiatrist).

Process of Telepsychiatric On-Consultation Training

A pair of PCDs participates in each session either in an active or passive (interviewer or observer) way. After about five patients, the active or passive participants interchange their roles. Randomly selected patients who are waiting at general outpatients of taluk hospitals or consecutive patients from primary health centers (to match the profiles of primary care patients) are chosen. Verbal consent from patients and their family is solicited at the beginning. Active PCDs will conduct consultations in his/her usual style first; subsequently, they are requested to use CSP screener questionnaire. Meanwhile, passive PCDs will observe during these consultations. Telepsychiatrist intervenes when he/she suspects psychiatric illnesses. If time permits, the telepsychiatrist can intervene to familiarize PCD with the screening algorithm of CSP. At the end of the consultation, follow-up plan of all patients is discussed. Telepsychiatrist notes down the session details.

Expected outcome from Telepsychiatric On-Consultation Training

Clinical skill transfer and collaborative care are the dual outcomes from tele-OCT sessions. Clinical skill transfer involves demonstrating how to ask right kind of screening questions to elicit symptoms and how to interpret psychiatric symptoms and signs of patients and to diagnose common psychiatric disorders. Tele-OCT also assists them to provide first-line treatment and discusses how to do follow-up of these patients. OCT also helps PCDs to identify what kind of patients are to be referred to psychiatrists. At the end, collaborative care is also provided to each patient whenever psychiatric disorder is diagnosed; otherwise, PCDs are allowed to provide their regular care to all nonpsychiatric patients.

Advantages of Tele-OCT over IP-OCT are its perceived cost-effectiveness in terms of travel time and money spent. Imagine benefits of a situation where each tele-OCT trained PCD treat at least 10 psychiatric patients every day in his/her clinic and providing early diagnosis and treatment at the community level. In this fashion, Tele-OCT is a friendly training program from both PCDs and psychiatrist perspectives.

The inherent disadvantage of OCT is it is labor intensive. Furthermore, it is expensive in terms of the salary of the telepsychiatrist, but worth in terms of perceived public health benefit from this one-time spending money on telepsychiatrist. Considering huge of numbers of PCDs in country, it is daunting task to have an adequate number of trainer telepsychiatrists.

Criticisms of Telepsychiatric On-Consultation Training

One of the criticisms from psychiatrist perspective about Tele-OCT is it reduces the numbers to psychiatric patients to practicing psychiatrists since patients are being treated at PCDs. Our understanding is that this apprehension is also a big myth. In fact, the opposite is true. There is huge number of psychiatric patients in the country, while the number of psychiatrists is far inadequate. Furthermore, often a psychiatrist treats SMDs, but CMDs are common in primary care settings. PCDs are empowered only to give first-line treatment. As a rule, 50% of patients do not respond to first-line treatment. Eventually, such patients will land up with psychiatrists.

In tele-OCT sessions, PCDs may not be comfortable in front of their patients. The perfect answer is its sustainability of Tele-OCT. Majority of PCDs express apprehension about sessions before they come, once session begins, they feel comfortable and they involve themselves actively thereafter. In fact, one PCD who is in his 50s informed “I was feeling apprehensive about training before I came for session, but, now I am convinced that I have done major blunders in my clinical practice in last 25 years without realizing the reality.” He extended: “this Tele-OCT has given me an opportunity

in this age to learn and change my practice style for the benefit of my patients.” Another incident where a lady taluk health officer who posts PCDs for Tele-OCT under her administrative control told “Our PCDs are getting benefit from your Tele-OCT and why don’t you train me also, I am also a practicing doctor.” These anecdotes are enough to suggest collaboration between specialist and PCDs is feasible and beneficial for the betterment of society.

Evaluation of effectiveness of Telepsychiatric On-Consultation Training: A preliminary data

Our team conducted preliminary evaluation of effectiveness of Tele-OCT in various ways. One important question was whether illness profiles of patients in Tele-OCT matches with reality of primary health care patients. This is a proxy indicator for the clinical effectiveness of Tele-OCT. Details of methodology and results are beyond the scope of this paper. Preliminary data from first 10 Tele-OCT were analyzed for their illness profiles and found 52% of patients of Tele-OCT

had psychiatric disorders, among which 36% are CMDs which matches with illness profiles published earlier (Nambi *et al.*, 2002). We have analyzed data of acceptability of Tele-OCT and found higher acceptability.^[37]

Latest developments about implementation of Telepsychiatric On-Consultation Training

Training of Trainers (TOT) module of Tele-OCT for the master trainer (Psychiatrist, currently, one per district) of one DMHP is underway with the aim to integrate Tele-OCT into DMHP of Karnataka. The Government of Karnataka has also asked PCP team to conduct TOT for their all 30 DMHP psychiatrists to implement across the state. All India Institute of Medical Sciences, New Delhi, has expressed interest to replicate this model and has asked for TOT of one of their psychiatrists to conduct opioid substitution treatment for PCDs of another Indian state. Finally, Dharwad Institute of Mental health and Neurosciences at Dharwad, Karnataka, also has expressed interest to

Table 1: Modules of designed primary care psychiatry program

Module	Description	Status of implementation	Feedback
Orientation Module (1-3 days)	CRT, didactic, interactive, audio-visual, video demonstration on major and minor psychiatric disorders	Our team conducted three such CRTs in the past 6 months	PCDs satisfied with knowledge they got, however, expressed concern about inability to translate theoretical knowledge into clinical skills for their consultations
Basic module (10-14 days)	On-site, residential, hybrid training program consists of CRT + Live demo of psychiatric consultations + IP-OCT	10 days' program conducted for PCDs from Uttarakhand state of India, during March 2018	Excellent feedback from PCDs about curriculum and structure of training format
Advanced module (2-4 Tele-OCT sessions)	2-4 sessions of OCT, preferably Tele-OCT, may be booster session	IP-OCT: Began for PHC doctors from December 2014 on an experimental basis in at extension clinics of NIMHANS. Covered about 35 PCDs involving 25 sessions matching around 100 h Tele-OCT: Began with single PCD, but gradually extended to many as discussed in the text	On face value, IP-OCT found acceptable to PHC doctors and judged as feasible to conduct an innovative training program. However, concerns about travel and costs remained
Videoconference-based Continuing Skill Development (V-CSD) module (Weekly or fortnightly 1-h live webinar)	Collaborative seminars, case presentations and journal club presentation by PCPs moderated by a telepsychiatrist	Each PCD has to present case conference, seminar, and a journal club assisted/verified cases, providing materials for seminar and JC in a collaborative model by a telepsychiatrist (<i>collaborative model</i>). In addition, conduct expert lecture from nonpsychiatric area	Till March 2018, 61 total Tele-OCT sessions are conducted, 59 PCDs undergone at least one Tele-OCT session, 23 PCDs are completed 3 Tele-OCT sessions, 594 patients are discussed in tele-OCT sessions and provided collaborative care, and 175 h of Tele-OCT sessions has been conducted. >12,000 patients are treated by Tele-OCT trained PCDs in the first 9 months Just began in April 2018. Two sessions have been conducted
Collaborative Video Consultations (CVC) module	Video-based assistance is available day-care collaborative clinical care whenever PCDs desire (9 am to 4 pm) for 1 year	Video-based assistance is available from 9 am to 4 pm by a telepsychiatrist on all working days for PCDs to discuss live cases in real time (<i>collaborative model</i>)	Began in last week of April 2018 for Uttarakhand state PCDs

All modules use “Clinical Schedules for Primary care Psychiatry.” PCDs – Primary care doctors, CRT – Classroom training, OCT – On-Consultation training, IP-OCT – In-Person On-Consultation Training, Tele-OCT – Tele-psychiatric On-Consultation Training, V-CSD – Videoconference-based Continuing Skill Development, PHCs – Primary health centers, NIMHANS – National Institute of Mental Health and Neurosciences

replicate this model in one other remotely served district of Karnataka.

ONE-YEAR CERTIFICATE COURSE OF PRIMARY CARE PSYCHIATRY PROGRAM

Primary care psychiatry team designed 1-year certificate course of PCPP for PCDs. This contains ideal training program for PCDs and contains designed psychiatric curriculum in CSP and five modules for its implementation across India. This is under progress for PCDs of Uttarakhand state of India. The description, status of implementation and remarks are provided in Table 1. At the end of 1 year, a certificate is issued after successful formative assessment throughout the year. Please note that last three modules (Tele-OCT, V-CSD and CVC) are purely digital based modules which means PCDs learn from their workplace itself.

Future directions

There is a need of pan-India expansion of PCPP across states which already started in Karnataka. For this, TOT format of CSP and Tele-OCT modules are planned. TOT format is already started for Mandya district DMHP psychiatrist who can train PCDs in his jurisdiction district. It is possible to design language compatible artificial intelligence-based Tele-OCT and Collaborative Video Consultations (CVC) modules (there are multiple languages in India) to expand successfully across India in short period. Outcome evaluation by different methods is the need of hours, that is, evaluation session of Tele-OCT is in progression, on ground evaluation of the effectiveness of Tele-OCT is planned and cluster randomized controlled trial and cost-effectiveness of Tele-OCT may be planned. PCPP and CSP of paramedical professionals and community leaders are needed. Validation findings of CSP are at most importance.

CONCLUSIONS

Basic psychiatric care at primary care is still distant dream in the developing countries. NIMHANS Bengaluru, a pioneer institute designed a digitally driven PCPP in India focusing on training PCDs across India. Two path-breaking innovations such as CSP and Tele-OCT already started showing its effectiveness. Implementation and its evaluation of other modules of PCPP such CVC and V-CSD modules are underway. A 1-year certificate course of PCPP for PCDs is implemented for Uttarakhand state PCDs. Successful implementation of pan-India expansion is underway.

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Conflicts of interest

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