

TRAINING GENERAL PRACTITIONERS IN PSYCHIATRY—AN ICMR MULTI-CENTRE STUDY

C. SHAMASUNDAR¹, JACOB JOHN², P. R. REDDY³, ABRAHAM VERGHESE⁴
CHANDRAMAULI⁵, MOHAN K. ISAAC⁴, V. G. KALIAPERUMAL⁷

SUMMARY

The specialist psychiatric services available in India is insufficient to meet the mental health needs of the country. Training of general practitioners in psychiatry through short courses is one of the remedial strategies. In 1982-83, an ICMR Multi-Centre Project of Training in Psychiatry for Non-Psychiatrist Primary Care Doctors was successfully completed at Bangalore, Hyderabad and Vellore using the training methods developed at NIMHANS. This paper describes the training programme and the results.

The magnitude of psychiatric morbidity in India and the comparatively insufficient specialist psychiatric services are well described (Neki, 1973). Training the general practitioners (GPs) in psychiatry is one of the remedial measures to overcome the above disparity (Shamasundar et al., 1978). This is also the accepted National Policy (DGHS, 1982) and recommended by W.H.O. (1975). The department of psychiatry at NIMHANS has been experimenting with such training programmes and their evaluations since 1977 (Shamasundar, 1986).

The training programmes must necessarily be of short duration in view of the large number of GPs and the small number of available specialists to train. The purpose of these short programmes cannot logically be to make the GPs experts overnight in managing their psychiatric patients. Even if the purpose is limited to make them experts in identifying and referring the psychiatric patients, the insufficient and already overburdened specialist services will never be able to cope even if the referrals are limited to only psychotics. From a pragmatic perspective, the purpose of short training programmes should

only be introductory in character, exposing the GPs to a "birds-eye-view" of clinical psychiatry, so that their interest to learn further is stimulated.

Encouraged by the work at NIMHANS, the Indian Council of Medical Research (ICMR) sponsored and financed a *Multi-Centre Project of "Training Programme in Psychiatry for Non-Psychiatrist Primary Care Doctors"*, in 1982-83. Three centres participated in the project, Bangalore, Hyderabad and Vellore. Bangalore centre functioned as the coordinating centre.

The purpose of the project was to test :

- (a) The efficacy of the training programme developed at NIMHANS.
- (b) The replicability of this programme at different centres.
- (c) The efficacy of the tool of evaluation developed at NIMHANS.

The criterion considered indicative of the efficacy of the training programme was the extent to which the training enabled the doctor to :

- (a) identify (diagnose) the common psychiatric problems.
- (b) manage the above problems.

1, 6. Department of Psychiatry }
7. Department of Biostatistics } NIMHANS, Bangalore.
2, 4. Department of Psychiatry, Christian Medical College, Vellore.
3, 5. Government Hospital for Mental Care, Hyderabad.

- (c) advise the patient and family members appropriately.
- (d) know when to refer the patient.

This paper describes briefly the project and its outcome. The evaluation of the efficacy of the tool of assessment is described in another write-up (Shamasundar, 1989).

MATERIALS

(A) The manual

A product of successive improvements through earlier training programmes (Shamasundar, 1986), the manual consisted of about 100 typed pages and 13 sections covering:

- (i) Introduction and classification
- (ii) Major symptoms and signs
- (iii) History taking
- (iv) Interviewing
- (v) Epilepsy
- (vi) Psychoses
- (vii) Mental Retardation
- (viii) Neuroses including depression
- (ix) Psychogenic somatic conditions
- (x) Psychosexual problems
- (xi) Psychiatric emergencies
- (xii) Psychopharmacology
- (xiii) Counselling

The contents of the manual were heavily clinically biased with case examples. Copies were distributed to the GPs at the beginning of the training programme.

(B) The structure and content of the training programme

The structure and content of the programme that had evolved over a period (Shamasundar, 1986) consisted of :

- (a) Thirteen afternoon sessions of two hours each, one or two sessions a week.
- (b) Each session consisted of :
 - (i) an initial brief lecture of about 30 minutes. The contents of the lecture were in conformity with the manual, with clinical bias.

- (ii) open discussions of about 60-90 minutes where the GPs were encouraged to discuss about their own clinical material as much as possible.

- (c) Major topics (commoner conditions like depression) were allotted two sessions, and 2 or more minor topics were condensed into a single session.
- (d) A standard set of slides were duplicated and used by all the 3 centres.

(C) Evaluation

The evaluation used in this project was based on earlier experiences (Shamasundar, 1986) :

- (a) There is no single, absolute measure indicative of how well a GP implements his skill in actual clinical practice.
- (b) "Live" observation of a GP in action in his clinic, or "Live-clinical-examinations" are impossible or impracticable.
- (c) The most effective, simpler and indirect way of assessing a GP's clinical skill is to mimic clinical situations by a set of vignettes and require the GP to answer a set of standard questions.

The clinical vignettes were used in this project for assessing the effectiveness of training. The vignettes represented six diagnoses; no psychiatric diagnosis (NPD), hysteria, depression, psychogenic somatic condition, epilepsy and schizophrenia. The standard questions accompanying each vignette covered 4 clinical and 6 attitude questions:

- (i) Diagnoses (multiple choice).
- (ii) Drugs if any, their dosage, side effects and the management of side effects.
- (iii) Advise to patient and family about the illness, drugs and work.
- (iv) When to refer to the psychiatrist.
- (v) 6 attitude questions.

The vignettes were administered both before and after the training programme. Scoring was done with the help of a scoring key.

METHOD

(A) Preparatory exercises

A familiarisation exercise was conducted to enable the investigators of Hyderabad and Vellore centres to become familiar in use of clinical vignettes and scoring them. These two centres administered the vignettes to a batch of local GPs. During the exercise, the Bangalore centre administered the vignette to a batch of GPs who had previously been trained and to 2nd and 3rd year psychiatry residents. The pooled data was used to evaluate the inter-rater reliability and other characteristics of the vignettes.

The pilot-exercise consisted of a training programme for 9 GPs conducted at Bangalore, in which the investigators from all the three centres jointly participated. The purpose was to ensure a fair degree of uniformity in the 3 centres in the subsequent main training programme.

(B) The main training programme

Using IMA and similar mailing lists, a questionnaire was sent to local GPs at all the 3 centres. Using the criteria of MBBS qualification and age between 30 to 50 years, each centre prepared a list of about 100 GPs eligible for training. Using the table of random numbers these GPs were offered a short training course in psychiatry till about 35 GPs volunteered and registered for training.

All the 3 centres carried out a similar training programme using the same content-curriculum. Vellore centre completed the programme from June to August, and the other centres from July to October in 1982. The programme consisted of 13 afternoon sessions, one session a week. Clinical vignettes were administered on the 1st and the

last session for pre- and post-training assessments. The post-training assessment also included a set of questions to tap the GPs' experience of the training as feed-back information. Those GPs who attended more than 9 sessions were given certificates of attendance.

The coordinators (C.S. and V.G.K.) visited Hyderabad and Vellore centres when same topic was being covered at those centres and also enquired about other sessions in order to identify any minor differences among centres in rendering of training.

The vignettes protocols from all the centres were pooled, coded and randomly divided into 3 batches, each being scored by one principle investigator. The inter-rater reliability had already been established from the data of the familiarization exercise ($r=0.94$ to 0.98).

The entire data was pooled and statistically processed at Bangalore centre, using paired t-test, one way analysis of variance, McNamer Test and Chi-square Test.

RESULTS

The characteristics of the GP populations on 4 parameters are compared in Table I. For each centre, the different populations are statistically similar. Across the centres, the differences are only in respect of age and sex.

The minor differences across centres in the manner of rendering the training and in the attendance are shown in the Table II. The GPs attended more regularly at Vellore and least so at Bangalore.

Table III shows the comparison of mean pre- and post-training scores for the 3 centres. On the clinical questions, the performance of the 3 centres are similar both before and after training.

The gain for Vellore centre was more. The performance on attitude questions were quite high even before training and the gains least at all the centres.

The pre- and post-training mean scores on clinical questions, diagnosis wise, combined

TABLE I. Comparison of the eligible, registered and un-registered GPs on 4 parameters, at each centre

	Age in years Mean (S.D.)	Sex as % of Males Mean (S.D.)	Psychiatric patients referred in 3 months Mean (S.D.)	Epileptic pati- ents referred in 3 months Mean (S.D.)
Bangalore				
1. Eligible N=100	34.66 (4.2774)	85.00 (0.3570)	2.78 (4.4510)	1.50 (3.2480)
2. Registered N=35	33.66 (3.0326)	88.57 (0.3181)	3.49 (3.5646)	1.66 (3.4800)
3. Un-registered N=65	34.28 (4.8022)	83.07 (0.3749)	2.40 (4.2128)	1.42 (3.1127)
Hyderabad				
1. Eligible N=100	33.19 (4.1296)	89.00 (0.3128)	4.05 (7.4099)	1.46 (2.7510)
2. Registered N=35	32.17 (4.0177)	91.42 (0.2799)	5.49 (8.1534)	1.63 (3.0991)
3. Un-registered N=65	33.74 (4.0647)	87.69 (0.3285)	3.28 (6.8534)	1.37 (2.5393)
Vellore				
1. Eligible N=102	35.33 (4.9076)	72.54 (0.4462)	2.78 (6.1287)	1.64 (3.0429)
2. Registered N=39	35.77 (4.1661)	82.05 (0.3837)	2.72 (4.3674)	1.97 (3.1823)
3. Un-registered N=63	35.06 (5.2971)	66.66 (0.4714)	2.83 (7.0000)	1.43 (2.9423)

TABLE II. Minor differences in the training across centres

	Bangalore Centre	Hyderabad Centre	Vellore Centre
Number of live cases demonstrated for each clinical topic	2-3	4-6	2-3
Discussions	Mostly about the GP's own patients	Mostly about the demonstrated cases	Mostly about the drugs, dosage and side effects
Mean attendance (Number of sessions) per GP(S.D.)	9.7 (2.8)	10.7 (2.5)	11.2 (1.7)

for the three centres is shown in Table IV.

The pre-training scores for epilepsy and NPD are higher and least for Hysteria and Depression. The gains are higher for Depression and Schizophrenia, but least for NPD, epilepsy and psychogenic somatic condition.

Questionwise break-up of the GPs' performance on clinical questions is shown in Table V. Because, the maximum score for different questions are different the mean scores are shown as percentage of the maximum score for each question. The pre-training score is highest for diagnosis, and higher for drugs,

TABLE III. Comparison of pre- and post-training mean scores for the 3 centres, S. D. in parenthesis

	Bangalore N=30	Hyderabad N=33	Vellore N=34	p** value
<i>Clinical Questions (Max. Score=72)</i>				
Pre-training	26.4 (10.7)	28.6 (7.1)	24.6 (9.9)	N.S.
Post-training	35.6 (11.6)	36.2 (12.7)	40.1 (12.9)	N.S.
p value*	<0.001	<0.01	<0.001	
<i>Attitude Questions (Max. Score=36)</i>				
Pre-training	29.8 (3.1)	31.4 (3.1)	28.0 (5.2)	<0.01
Post-training	32.1 (2.7)	32.4 (2.9)	31.6 (3.3)	N.S.
p value*	<0.01	N.S.	<0.001	

*Paired 't' test.

**One way analysis of variance.

TABLE IV. Comparison of pre- and post-training scores for each diagnosis for clinical question-3 centres combined

Max. Score=72

Diagnoses (Vignette)	Pre-training Mean	Post-training Mean	Gain Mean
No Psychiatric Diagnosis (NPD)	31.32	37.15	5.83
Hysteria	17.21	26.93	9.72
Depression	18.72	35.28	16.56
Psychogenic somatic condition	28.44	36.86	8.42
Epilepsy	39.96	46.08	6.12
Schizophrenia	22.61	42.26	19.65
All diagnosis combined	26.38	37.40	11.1

Note: N=97

TABLE V. Questionwise pre- and post-training total mean scores on clinical questions for all vignettes and centres, shown as percentage of maximum score for each question

	Pre-training	Post-training	Gain
1. Diagnosis	73.8	86.2	12.4
2. (a) Drugs	55.6	72.1	16.5
(b) Dosage	39.1	63.1	24.0
(c) Side effects	28.6	47.0	18.4
(d) Management of side effects	27.4	47.7	20.3
3. Advise			
(a) On illness	29.8	42.3	12.5
(b) On drugs	22.0	36.4	14.4
(c) On work	44.5	53.6	9.1
4. Disposal (when to refer)	16.6	26.8	10.2

TABLE VI. *The GP's feed-back about the Training Programme and its components. The numerals represent the percentage of responses. Number of GPs responding=102 (Bangalore 31, Hyderabad 35 and Vellore 36)*

Questions about	High rating	Moderate rating	Poor rating
1. Content of Lecture-applicability to own clinical work	86.3	12.7	—
2. Usefulness of information in lecture	60.4	37.6	2.0
3. Understandability of lectures	86.1	13.9	—
4. Have they read the manual?	82.0 (‘yes’)	16.0 (‘partly’)	2.0 (‘No’)
5. Usefulness of the manual	90.9	9.1	—
6. Correspondence of case history examples to own clinical material	45.5	47.5	7.1
7. Usefulness of case history examples	59.8	40.2	—
8. Usefulness of ‘live’ demonstrations	100	—	—
9. Will they be able to identify the demonstrated features if seen again?	45.5	54.5	—
10. Similarity of the clinical vignettes (used in assessment) to their clinical cases	46.1	49.0	4.9

and advise about work, and least for disposal. The gains are higher for dosage, and management of side effects. There has not been much improvement after training on the question on disposal.

The GPs' feed-back on the training programme and its components is shown in the Table VI. Though not shown in the table, only in respect of two items (namely the usefulness of case history examples and the usefulness of the manual itself), there were statistically significant differences across the centres. Only in respect of 4 out of 10 items, poor-ratings were given by 2% to 7% of the GPs.

DISCUSSION

Table I shows a fair degree of similarity of the GP-populations at the three centres. The reason for the Vellore GPs being slightly older, referring less psychiatric patients is not clear. But, the representation of more females among the Vellore GPs is probably related to the availability of free transport provided by the centre. The varying degrees of differences in the GP-populations of the 3 centres offered a better testing situation to assess the efficacy of the training method.

I. The efficacy of the training programme

All the criteria of efficacy of the training are satisfied to varying degrees as shown in Table V, and are discussed below. It has to be remembered that the assessment is limited by the topics covered in the tool of assessment.

(A) **The GP's ability to diagnose:** Even before training, the GPs had adequate ability to diagnose as reflected by 73.8% of the maximum score. The gain in score after training was of the order of 12.4%. At least, part of the reason for the high pre-training score is due to the multiple choice nature of question on diagnosis used. It would be worthwhile trying out open-ended questions on diagnosis.

(B) **The ability to manage psychiatric condition:** The GPs' pre-training knowledge about use of drugs, dosage, their side effects and management were 55.6%, 39.1%, 28.6% and 27.4% of maximum score respectively. However the gains after training were maximum for dosage and management of side effects, 24.0% and 20.3% respectively.

It is not surprising that the GPs are familiar with the appropriate drugs but not adequately so about the dosage or their side

effect and the management of side effects.

(C) Ability to advise the patient and the family: Even though the GPs' ability to advise appropriately about work was of moderate degree (44.5%) before training, their performance on advise about illness and drug remained comparatively poorer after training inspite of gains of the order of 12.5% and 14.4% respectively.

This is probably related to their habit of not spending adequate time with their patients and thus not sufficiently receptive to this aspect of management. Part of the reason may also be inadequate emphasis during training.

(D) Ability to appropriately refer (Disposal): This ability remained lowest both before and after training inspite of a gain of about 10.2%. An examination of some random protocols revealed that: i) Before the training, majority of responses were stereotyped: . . . "will refer to a psychiatrist"; ii) after the training, the majority responses were either ". . . will treat the patient myself," or "no need to refer," reflecting a sense of confidence though not warranted so soon.

(E) Overall performance and replicability: The Table III shows that the total performance of the GPs were equivalent in the 3 centres both before and after training, demonstrating the replicability of the training programme.

The comparatively small gain of the order of about 15% of the maximum score is no small achievement, considering the following factors;

- (1) The assessment relates to only 5 clinical syndromes, and the assessment tool was deliberately designed to be simple and easy to score precisely.
- (2) Even though the clinical syndromes were taught over 10 sessions of training, the 5 syndromes on which assessment is based were covered in only 5 session (10 hours).

(3) The purpose of this training programme was more global, that is, to expose the GPs to the philosophy of clinical psychiatry in order to stimulate their interest to learn further. Consequently, those informations on which the GPs were assessed were only incidental of the total picture presented in the training.

(4) It is however possible to raise the gain by concentrating during training only on those informations on which assessment is based. But, such a measure and result would be artefacts, reflecting island-peaks of fragmentary knowledge.

It is an obvious necessity that such short courses are followed-up after some time by brief refresher courses designed to fill-in the deficiencies.

II. The questions on attitude

It is seen from Table III that the GPs had desirable attitudes with scores ranging from 78% to 87% of maximum score even before training, and reaching 88% to 90% after training. This means that, for at least the urban GPs, the questions on attitudes are probably redundant for the purpose of assessment of training.

However, what is remarkable is that even though the content of training did not include about attitudes, there were gains ranging from 2.0% to 6.4% attributable to training. This shows that the GPs were capable of extracting the corollaries of what was taught even in this short programme, and this may be termed 'indirect learning'. The practical significance of this is: comprehensiveness of details are not always necessary in short courses.

III. Differences in performance for different diagnosis (Table IV)

- (a) The lowest pre-training scores (17-18% of maximum) for hysteria and

depression shows the seriousness of the problem of management of common conditions at the primary care level.

- (b) The highest pre-training score (55.5% of maximum) for epilepsy with least gain invites the debatable policy question about the suitability of including epilepsy as a part of brief training in psychiatry.
- (c) The maximum gains in respect of schizophrenia (27.3%) and depression (23%) and the contrasting least gains for hysteria (13.5%) and psychogenic somatic condition (11.7%) are related to the relative ease or difficulty in conveying precise and concrete informations about the respective syndromes.
- (d) For the NPD, both pre- and post-training scores were only moderate, 43.5% and 51.6% respectively. The obvious reasons are: (i) difficulty of constructing a vignette containing feature that are seemingly pathological but not amounting to a syndrome, ii) a natural tendency of a GP-assessee to diagnose. Perhaps, use of NPD vignettes do not serve any useful function in evaluation of training.

IV. The GP's feed-back

The first observation that stands out in Table VI is the non-uniformity of the GP's responses to different items. 5 of the items have been given high rating by more than 80% of the GPs, remaining 5 items have been accorded moderate ratings by 37% to 54% of them. 2 to 7% of the GPs have given poor ratings to 4 items. Examination of a random sample of protocols showed that very often, the same GP had accorded different ratings to different items. This means that the responses are neither spurious nor biased.

This valuable feed-back suggests areas requiring further improvements :

- (a) Contents of the lectures are to be formulated on the basis of a thorough study of the kind of cases that commonly attend GP's clinics, not only in terms of diagnosis but also in terms of manner of clinical presentation.
- (b) Case-history examples in the manual are to be similarly based as above.
- (c) More weightage is to be given to demonstration of clinical features.
- (d) The clinical features in the vignettes need to be based more thoroughly on GP's clinical material as in item (a) above.

CONCLUSIONS

- (1) The method of training adopted in this study does increase knowledge through 20-22 hours of training.
- (2) The training method is replicable on different GP populations.
- (3) The gain in knowledge is not uniform either for different diagnosis or for different component of management. These areas should receive more attention.

Acknowledgement

The authors owe their grateful thanks to (i) The ICMR, especially Prof. Usha K. Luthra for the initiation and authorisation of the project and continued encouragement, ii) the two ICMR consultants, Professors R. L. Kapur and S. D. Sharma for their valuable suggestions, and more importantly, iii) the GPs without whose active co-operation, this project would not have been successfully concluded and (iv) the colleagues of Prof. V. G. Kaliaperumal for their assistance in statistical analysis.

REFERENCES

- DGHS (1982). National Mental Health Programme for India. DGHS, New Delhi: Govt of India.
- Neki, J. S. (1973). Psychiatry in South East Asia. *British Journal of Psychiatry*, 123, 257.
- Shamasundar, C.; Kapur, R. L.; Sundaram, U. K.; Pai, S. and Nagarathna, G. N. (1978). Involvement of the General Practitioners in Urban Mental Health Care. *Journal of Indian Medical Association*, 71 (12), 310-313.
- Shamasundar, C. (1986). Training General Practitioners in Psychiatry—Bangalore Experience. CME, Indian Psychiatric Society.
- Shamasundar, C.; Jacob John; Reddy, P. R.; Kaliaperumal, V. G.; Verghese, A.; Chandra Mauli and Isaac M. K. (1989). Clinical Vignettes for Assessment of Training GPs in Psychiatry. Accepted for publication in *Indian Journal of Psychiatry*.
- W. H. O. (1975). Organisation of Mental Health Services in Developing Countries. Training Report Series No. 564, Geneva: W. H. O.