

CLINICAL VIGNETTES FOR ASSESSMENT OF TRAINING GENERAL PRACTITIONERS IN PSYCHIATRY

C. SHAMASUNDAR¹, JACOB JOHN², P. R. REDDY³, V. G. KALIAPERUMAL⁴,
ABRAHAM VERGHESE⁵, CHANDRAMAULI⁶, MOHAN K. ISAAC⁷

SUMMARY

Training of non-psychiatrist medical professionals in psychiatry through short courses is an urgent need recognised by the National Mental Health Policy. In order to improve the training programmes over a time, a suitable method of evaluation of the effect of training is essential. Such a method of evaluation was developed at NIMHANS using clinical vignettes. These vignettes were successfully used in the I. C. M. R. Multi-centre Project of Training non-psychiatrist primary care doctors in 1982-83. This paper describes the effectiveness of the clinical vignettes as tools of evaluating short training programmes.

The need to train the general practitioners (GPs) in psychiatry is well recognised both at the national and international level (National Mental Health Programme, DGHS, 1982). In the Indian context, in view of the smaller number of available specialist manpower, the training programmes must necessarily be of shorter duration and oriented to the routine clinical work of the practitioners.

Evaluation must be an in-built component of all such training programmes to enable successive improvements. In addition, the tools of evaluation must be:

- (i) simple, and capable of administration in a short time,
- (ii) biased towards clinical information,
- (iii) easy to score.

Essay type questions that are theoretically biased, and the multiple choice questions that suggest their own answers are unsuitable. Equally un-suitable is the assessment by 'live' clinical examination that is cumbersome and time consuming. As a better alternative, assessment based on clinical vignettes was being used at NIMHANS since 1979 in

training programmes for GPs (Shamasundar et al., 1983 and Shamasundar, 1986). Over a period of time, minor modifications were effected like shortening of the vignettes to include only the most prominent symptoms or signs.

Their modified versions were being used to evaluate the training of paraprofessionals also.

During the ICMR Multi-centre Project of Training Non-Psychiatrist Primary Care Doctors in 1982-83, an opportunity arose to systematically evaluate the efficacy of the clinical vignettes as a tool of assessment of short training programmes in psychiatry. This paper describes such an evaluation based on the data of the ICMR Multi-centre Project, in which Bangalore, Hyderabad and Vellore centres participated.

MATERIAL AND METHOD

Description of the clinical vignettes

Each vignette consists of brief descriptions of 5 to 7 features characteristic of a major psychiatric diagnosis, commonly encountered

- | | | |
|---|---|--|
| 1,7. Associate Professor of Psychiatry | } | NIMHANS, Bangalore. |
| 4. Associate Professor of Biostatistics | | |
| 3. Professor of Psychiatry | } | Govt. Hospital for Mental Care, Hyderabad. |
| 6. Psychiatrist | | |
| 2. Professor of Psychiatry | } | Christian Medical College, Vellore. |
| 5. Professor of Psychiatry (Retired) | | |

in general practice. Five diagnoses are covered: hysteria, depression, psychogenic somatic condition, epilepsy and schizophrenia. Even though schizophrenic conditions are not frequently seen in general practice, it was included because it was believed necessary for a GP to know about it. An additional diagnosis of "No Psychiatric Diagnosis" (NPD) ("Dummy" or "Normal") was included to assess the GPs ability to identify normality also.

Each diagnosis is represented by a pair of vignettes constructed similarly. Each of the pair is designated vignette-'A' vignette-'B' for that diagnosis. Thus, the six diagnoses were represented by 6 vignettes in set 'A' and 6 vignettes in set 'B', the two sets being comparable. While assessing the pre- and post-training performance, a GP would not get the same set twice.

A set of standard questions accompany each vignette, the questions are related to:

- (i) the diagnosis (multiple choice),
- (ii) drugs if any to use, dosage, their side effects and the management of these side effects,
- (iii) advise to be given about illness, drugs and work,
- (iv) when to refer (disposal),
- (v) a set of 6 questions on attitude towards psychiatric illness.

Scoring of the answers to the questions is done using a scoring-key which was prepared on the basis of the content of the training, and by consensus of 3 or more consultants involved in the training programmes. The numerical score indicated the level of knowledge, higher the score more the desirable knowledge, and lower the score lesser the desirable knowledge.

Description of sources of data

The first exercise was carried out to assess:

- (i) the inter-rater reliability in scoring,
- (ii) the equivalence of the sets 'A' and 'B',

- (iii) the ability of the clinical vignettes to assess the different levels of knowledge of untrained GPs, trained GPs, and the psychiatry residents.

For this purpose, before the commencement of the main training programme, each collaborating centre, administered the vignettes to a group of local doctors as follows:

- (a) At Hyderabad centre, 17 GPs who were not exposed to any formal training in psychiatry were administered the vignettes, set 'A' to 7 and set 'B' to 10.
- (b) At Vellore centre, 27 similar GPs were administered the vignettes, set 'A' to 11 and set 'B' to 16. Most of these GPs had a regular professional liaison with the local investigators.
- (c) At the Bangalore centre (the coordinating centre), the vignettes were administered to:
 - (i) 40 GPs who were previously trained in psychiatry. 20 of them had set 'A' and another 20 set 'B'.
 - (ii) 24 psychiatry residents in their second and third years. Among them, 20 were administered both sets 'A' and 'B'.

This exercise yielded a total of 128 protocols, from which 26 protocols (20%) were randomly selected, coded, and independently scored by the principal investigator of each of the three centres. The remaining protocols were scored by the respective principal investigators. The scores from this exercise were analysed to examine the inter-rater reliability, etc. as above using correlation co-efficient, paired 't' test and analysis of variance.

In the second exercise, the vignettes were used for the pre- and post-training assessment in the main training programme at the three centres. At each centre, about 30 GPs underwent training. The scores of the pre- and post-training assessments were analysed.

RESULTS

The 26 protocols were independently scored by three investigators. The scores given by any two investigators was subjected to comparison by correlation co-efficient. Thus, there were a total of six comparisons, viz: Bangalore Vs. Hyderabad, Bangalore Vs. Vellore, and Hyderabad Vs. Vellore for set 'A' and set 'B' separately. The correlation co-efficient (r-value) varied from 0.94 to 0.98 indicating a high degree of inter-rater-reliability. When the r-values in respect of individual vignettes were examined, there were 36 r-values (12 vignettes and 3 combinations of assessors). Only 9 values ranged from 0.68 to 0.77 in respect of NPD, epilepsy and psychogenic somatic condition. All other values were higher than 0.80.

The similarity or the equivalence of the two sets of vignettes 'A' and 'B' was well demonstrated by the similarity in the scores when the same Psychiatry Residents were administered both the sets of vignettes. The mean score obtained by them for each vignette and the respective standard deviation was calculated. The values for each of the pair of vignettes were compared by paired 't' test for each of the six diagnoses. The 't' value for the NPD (No Psychiatric Diagnosis) was 1.8169 and not significant. The 't' values for the other five diagnoses ranged from -0.2944 to 0.9499, all being nonsigni-

ficant. Similar equivalence of scores for the two sets was also seen, as in Table I when different doctors were administered different sets of vignettes.

The mean scores of different groups of doctors was compared by one way analysis of variance to ascertain the ability of the vignettes to measure different levels of knowledge. It was expected that the scores for untrained doctors would be lower, that for the psychiatry residents higher and that for the previously trained doctors in between. The results shown in Table I, not attributable to chance confirmed the expectation.

The pre-and post-training scores of the three groups of doctors that underwent the training at the three centre were compared, as shown in Table II, to ascertain the usefulness of vignettes on different population. In this table, the scores for attitude questions are excluded because in the main training programme it was found that the GPs already have the desirable attitudes even before training.

The results confirm its replicability, as a tool of assessment of training programme.

On all occasions, in all the three centres, the administration of the vignettes took about 30 minutes on the average.

DISCUSSION

Even though the *inter-rater reliability* for

TABLE I. Comparison of mean scores by different groups of doctors by one way analysis of variance ('F' value)
Maximum Score = 108

	Vignette Set 'A'			Vignette Set 'B'		
	Mean score	No.	%	Mean score	No.	%
Untrained GPs (Hyderabad)	50.50	7	46.77%	51.10	10	47.31%
Untrained GPs (Vellore)	67.27	11	62.29%	58.57	16	54.51%
Previously Trained GPs (Bangalore)	72.49	20	67.12%	70.83	20	65.58%
2nd and 3rd year Psychiatric Residents (Bangalore)	79.94	22	74.02%	78.65	22	72.82%
'F' value	3.7107			4.9661		
(Significance)	p < 0.01			p < 0.05		
d.f.	3,56			3,65		

TABLE II. Comparison of the mean scores before and after training at each centre. Maximum Score = 72
(Scores on attitude questions excluded). Standard deviation in parenthesis

	Bangalore Centre N=30 d.f.=29	Hyderabad Centre N=33 d.f.=32	Vellore Centre N=34 d.f.=33
Pre-training			
Mean Score	26.4	28.6	24.6
(S.D.)	(10.6598)	(7.1394)	(9.9297)
Post-training			
Mean Score	35.6	36.2	40.0
(S.D.)	(11.5634)	(12.6755)	(12.9350)
Paired 't' value	5.1263	3.4799	8.8503
(Significance)	($p < 0.001$)	($p < 0.01$)	($p < 0.001$)

the entire sets of vignettes is of a high order ($r=0.94$), a few lower values ($r=0.68$ to 0.77) for individual vignettes were found which need explanation, especially because, the scoring was done using a score key which required fair degree of specific answers. Yet, as the questions were all open-ended except the question on diagnosis, the assessors are allowed limited amount of freedom to exercise their judgement. Hence, the reason for relatively lower values have to be sought in the nature of the vignettes themselves. The probable reasons are:

- In case of NPD vignettes, it is difficult to construct a vignette that is seemingly psychiatric, not amounting to a syndrome. Conversely, it is equally difficult for an assessee to resist the temptation to make a diagnosis.
- In case of Epilepsy vignettes, the fashion of conservative management probably varied widely in different centres.
- In case of psychogenic somatic condition vignettes, problems are probably similar to NPD vignettes. The vignette has to suggest psychogenic somatic condition without suggesting a frank neurosis or depression.

The results show that *the two sets of vignettes 'A' and 'B' are almost equal in their measurement*

ability, in respect of each of the six diagnoses. In view of this, the minor differences in some vignettes are acceptable. It is however interesting that the differences between 'A' vignettes and 'B' vignettes were relatively more for NPD and psychogenic somatic condition, and least for Hysteria and Epilepsy. The obvious reasons are related to the relative concreteness and specificity of the clinical features.

The clinical vignettes have demonstrated their *ability to measure different levels of knowledge*. The highest mean value measured is 74.02% (79.94 out of 108) as in Table I, and the lowest mean value is 34.1% (24.6 out of 72) as in Table II. Obviously, in individual measurements, their ability probably covers a wider range. However, there is a need to increase the sensitivity of the clinical vignettes, by developing and using graded vignettes of different degrees of easiness-difficulty. This was attempted by the first author in the earlier training programme (Shamasundar, 1986) but was given up as it was found too difficult to standardise them. It would be worth the while if such graded vignettes can be developed and standardised.

The comparatively higher scores by the "untrained GPs" and relatively lower scores by residents (Table I) are probably related to:

- The GPs were established in practice over many years, and had close

working relationship with the investigators especially at Vellore.

- (b) The scoring was done by using a scoring key which required certain specific range of answers in accordance with simple and relatively concrete information that is imparted to the GPs. Most of the resident's answers did not lend itself to precise scoring, except their answers to diagnosis, drugs and dosage. Majority of them did not answer the question: when to refer.
- (c) The multiple choice nature of the question on diagnosis probably has contributed to spurious increase, however small, in score. Open question on diagnosis is perhaps preferable.

The replicability of the use of clinical vignettes as a tool of measuring knowledge is established (Table II). The least gain at Hyderabad centre and most gain at Vellore centre are attributable to differences in the style of transfer of information at the different centres as was observed by the first and the fourth authors who visited the centres when the training programmes were going on.

CONCLUSION

- (a) The two sets of clinical vignettes developed at NIMHANS and successfully used in the ICMR Multi-centre Project of Training Non-Psychiatrist Primary Care Doctors in Psychiatry are capable of:
- (i) reliable measurement of different levels of knowledge,
 - (ii) reliable scoring,
 - (iii) replicability, and
 - (iv) easy administration.
- (b) There is need to develop and refine

this method of assessment, if possible, by developing vignettes of graded degrees of difficulty.

Acknowledgements

The authors gratefully thank:

- (i) The ICMR, especially Prof. Usha K. Luthra for conceiving and sanctioning the project as well as for the active encouragement throughout,
- (ii) Professors R. L. Kapur and S. D. Sharma for their advise and suggestions as ICMR consultants,
- (iii) Colleagues of Dr. C. Shamasundar who had, contributed to the development of the vignettes in earlier training programmes at NIMHANS,
- (iv) The participant GPs and residents at the three centres without whose active cooperation, this work would not have been possible,
- (v) The Director, NIMHANS for his encouraging cooperation, and
- (vi) Colleagues of Prof. V. G. Kaliaperumal for their assistance in statistical analysis.

REFERENCES

- Director General of Health Services (1982). The National Mental Health Programmes, New Delhi.
- Shamasundar, C.; Kapur, R. L.; Isaac, M. K. and Sundaram, U. K. (1983). Orientation course in Psychiatry for the General Practitioner. *Indian Journal of Psychiatry*, 25 (4), 298-305.
- Shamasundar, C. (1986). Training General Practitioners in Psychiatry—Bangalore Experience. *CME: IPS, Indian Psychiatric Society*.

NOTE: Those who are interested to use the vignettes and the accompanying questions may kindly write to the first author for the copies.