

Acquisition of communication skills in postgraduate training for general practice

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PURPOSE The evidence suggests that a longitudinal training of communication skills embedded in a rich clinical context is most effective. In this study we evaluated the acquisition of communication skills under such conditions.

METHODS In a longitudinal design the communication skills of a randomly selected sample of 25 trainees of a three-year postgraduate training programme for general practice were assessed at the start and at the end of training. Eight videotaped real life consultations were rated per measurement and per trainee, using the MAAS-Global scoring list. The results were compared with each other and with those of a reference group of 94 experienced GPs.

RESULTS The mean score of the MAAS-Global was slightly increased at the end of training (2.4) compared with the start (2.2). No significant difference was found between the final results of the trainees and the reference group. According to the criteria of the rating scale the performance of both trainees and GPs was unsatisfactory.

CONCLUSION The results of this study indicate that communication skills do not improve in a three-year postgraduate training comprising both a rich clinical context and a longitudinal training of

communication skills, and that an unsatisfactory level still exists at the end of training. Moreover, GPs do not acquire communication skills during independent practice as they perform comparably to the trainees. Further research into the measurement of communication skills, the teaching procedures, the role of the GP-trainer as a model and the influence of rotations through hospitals and the like, is required.

KEYWORDS education; graduate/*methods; *physician patient relations; *communication clinical competence/*standards; family practice/education; longitudinal study

Medical Education 2004; **38**: 158–167
doi:10.1046/j.1365-2923.2004.01747.x

INTRODUCTION

'Dialogue is an important means whereby the patient can acquaint the physician with those inner experiences which had led him ...to solicit medical help'.¹ Not only this, it also influences the understanding of the health problem, the patient's satisfaction, compliance and health, and the physician's job satisfaction.^{2–7} So adequate communication between patient and physician is essential for good clinical practice^{8,9} and the teaching of communication skills in medical education is therefore well established.⁷

Several studies have examined the effect of communication training in medical education. Although considerable variation exists with respect to instructional methods, content of communication skills, participants, measurement instruments and research design, some conclusions can be drawn. For instance, a significant increase in communication skills is generally found immediately after the training of

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Key learning points

The evidence suggests that a longitudinal training of communication skills embedded in a rich clinical context is most effective.

A lack of acquisition of communication skills and an unsatisfactory level at the end of training has been found.

Trainees at the end of training performed comparably to experienced GPs.

More research into the teaching and evaluation of communication skills and the role of the GP-trainer as a model is required.

under- and postgraduate students as well as for physicians participating in continuous medical education.^{4-6,10-15} Long-term effects are shown one to five years after completion of the training.¹⁶⁻¹⁸ When assessing communication skills throughout medical school, three studies found a decline during the clinical years (clerkships),^{3,19,20} whereas one study found the opposite.²¹ The decline was explained by the preoccupation of students with correct diagnosis and the lack of adequate communication in the hospital environment.

Several studies have also assessed the impact of communication training when provided at different stages during medical education, and these studies suggested that a longitudinal training of communication skills embedded in a rich clinical context (e.g. clinical clerkships, postgraduate training) is most effective.²²⁻²⁴

This report deals with the evaluation of the acquisition of communication skills under such conditions: postgraduate training for general practice. The curriculum provides communication training throughout the entire training course, while the trainees obtain clinical experience in a general practice or hospital setting.

In order to examine the development of communication skills, real life consultations of trainees were videotaped at the start and at the end of training. The consultations were rated using the MAAS-Global scoring list.²⁵ The results were

compared with each other and with those of a reference group of experienced general practitioners (GPs).

METHODS

Context of the study and communication training programme

The curriculum under study was the Dutch postgraduate training in general practice from September 1995 to September 1998. Since 1988 this curriculum has been organized according to a standard blueprint (see Box 1).²⁶

A three-year training programme was employed, comprising per week four days of practical learning and one day of special training and reflection at the training institute. Eight training institutes provided the programme. Its content was based on the Basic Job Description for the GP, and generally was aimed at the acquisition of knowledge relevant to general practice, clinical and communicative skills and attitudes. The course of the programme was structured around three blocks of one year; starting with general practice training, followed by rotation schemes in hospitals, clinics for chronically ill patients and psychiatric outpatient clinics and finished by, again, general practice training.

The training programme for communication skills was based on the principles of patient-centred care and aimed at mastering of skills for creating a good patient-doctor relationship (communicative behaviour) and for establishing a systematic approach of the encounter (systematic behaviour). To a large extent, training took place at the institute in groups of 10 trainees. About 25% of the overall training time at the institute was devoted to communication skills; that is, on average about 2 hours per week for three years. In the first year a little more attention was paid to communication than in the second and third years (30% compared to 25%).²⁷ The educational methods comprised instruction, modelling, experiential learning (video-/audiotaping real consultations, simulations), discussion and formative assessment. Furthermore, individual attention was paid to the attitude of the trainee toward the interaction with patients, in meetings with three trainees under supervision of a trained supervisor. Apart from this, trainees worked in a general practice under supervision of a GP during the first and third year where they

Box 1 Dutch postgraduate training in general practice at the time of the study (1995–1998)

CONTENT	Basic job description for the general practitioner	
STRUCTURE	Three blocks of equal length	
	Block 1	General practice training
	Block 2	Rotations through hospitals, clinics for chronically ill patients and psychiatric outpatients clinics
	Block 3	General practice training
LEARNING OBJECTIVES	Block 1	Acquisition of knowledge, skills and attitudes with emphasis on common problems
	Block 2	Acquisition of additional knowledge, skills and attitudes that cannot be learned in general practice itself
	Block 3	Integration of the new knowledge, skills and attitudes with emphasis on management of complex situations

received modelling by and feedback from the GP-trainer.

Subjects

Seven of the eight training institutes were asked to select randomly a maximum of eight trainees from the cohort of 191 trainees who started in September 1995 (on average 30 trainees per institute). One institute did not participate because none of their trainees started in September 1995. Due to resource restrictions, a maximum of 50 trainees for the study was feasible. The sample was tested for representativity by personal and professional characteristics (age, gender, time between graduation and the start of postgraduate training, entrée level of knowledge) (*t*-test and chi-squared test). The GPs used as reference group ($n = 94$) were taken from another study in which communication skills were assessed comparable to our study.²⁸ This study, in which they were voluntary participants, investigated the validity, reliability and feasibility of a comprehensive assessment procedure for GPs. They were not particularly interested in communication skills or targeted for extra training and were representative of Dutch GPs according to several personal and professional characteristics.

Procedure

A longitudinal design was adopted. A single cohort of trainees was assessed twice, three months after the start of their training and again after 30 months of training (six months before the end of their training). For logistic reasons real start and end measurements were not feasible. Per measurement, trainees were asked to videotape over two weeks 20 routine real life consultations. Trainees were familiar with the videotaping of real life consultations for formative assessment purposes. For this study patients had to give informed consent before videotaping. A logbook was provided for recording consultation and patient data. Out of these 20 consultations, eight were selected for assessment. Research into the MAAS-Global scoring list had shown that this number of consultations yields sufficient reliability.²⁹ Selection was applied to achieve uniformity in the content of the consultations, so that comparisons between the consultations of both measurements were possible. It also established a more standardized assessment situation. Criteria for selection were one reason for encounter, new illness episode and duration between 3 and 15 minute. Comparability was assessed afterwards, using the selection criteria as well as gender and age of the patient, ICP category of the patient's

problem³⁰ and level of difficulty. The level of difficulty was assessed by the Amsterdam Clinical Challenge Scale (ACCS).³¹

The consultations were rated by 27 trained GP-observers who were familiar with the assessment instrument and postgraduate training. All rating took place after the second measurement. Each observer was sent a videotape with a mix of consultations, unknown to the observer, of the first and second measurement. This procedure was used to avoid bias (i.e. the tendency to rate higher when the observer knows it is a second measurement) and to achieve uniformity in rating. The videotape also contained as much as possible consultations of different trainees to avoid a halo effect (i.e. the tendency to rate a trainee high (or low) in all areas being evaluated if he or she scores high (or low) in one area). Finally, the videotape did not include consultations of trainees who were known to the observer, in order to achieve maximum objectivity. Two observers rated two thirds of the consultations to test interrater reliability.

The results of the second measurement were compared to those of the reference group of GPs.

Instrument

Consultations were rated using the MAAS-Global scoring list.²⁵ This instrument reflects the learning objectives of the training programme and is regularly used as an assessment tool for educational purposes. It also has an established reliability and validity.^{28,32} The list contains 11 case-independent items (see Table 1), referring to two categories of communication skills: skills needed in certain phases of the consultation (e.g. opening) and general skills needed in the entire consultation (e.g. dealing with emotions). Items are global but anchored with detailed criteria. They are scored on a 7-point Likert scale, ranging from 'not present' to 'excellent' (see Fig. 1 for an example). All items must be completed in each consultation.

The reliability using generalizability theory was 0.71, which is satisfactory, in particular for the interpretation of group results such as in this study.

Analysis

Two scores were calculated per trainee: an item score for each of the 11 MAAS-items and a total test

Table 1 Comparison between personal and professional characteristics of the participants and the nonparticipants

Characteristics	Participants (<i>n</i> = 25) mean	Non-participants (<i>n</i> = 166) mean	Significant difference
Age (years)	30	30.6	n.s.
Gender (% female)	48	56	n.s.
Time between graduation and start postgraduate training (months)	30	29.7	n.s.
Start level general knowledge (%)	38.2	39.1	n.s.
Start level knowledge of skills (%)	27.9	26.1	n.s.

FLEXIBILITY

0 1 2 3 4 5 6*

Empathising, attentive and open in intonation,
Gesture and eye contact
Adequate time / space for the patient
No disrupting hitches or interruptions

*0=absent, 1=bad, 2=insufficient, 3=doubtfull, 4=sufficient, 5=good, 6=excellent

Figure 1 Example of an item in the MAAS-Global scoring list.

score. The item score was calculated by averaging across the eight consultations. To establish the total test score the mean score per consultation was first calculated and then the average of the eight consultations taken. To calculate per item the mean item score and standard deviation, item scores were averaged across the number of trainees and GPs, respectively. For the mean total test score and standard deviation the total test scores were averaged across the same groups. Mean items and total test scores of the first and second measurement were compared and the statistical significance of differences was tested with a paired *t*-test. Mean items and total test scores of the second measurement and of the GPs were also compared and the statistical significance of differences was tested with a *t*-test.

RESULTS

Subjects

Thirty nine trainees participated in the first measurement, at the start of the training course. Of these, only 25 participated at the second measurement, at the end of the three-year training. Drop out was caused by personal circumstances as pregnancy and illness or training delay due to those circumstances. Because the drop out was rather substantial, we compared the 25 trainees who completed both measurements to the 14 trainees who did not. No significant differences were found between either group for the aspects entrée level of communication skills, entrée level of general knowledge, entrée level of knowledge of skills, age, gender and time between graduation and the start of postgraduate training.

The 25 trainees who completed both measurements did not significantly differ from the 166 nonparticipants with respect to the controlled aspects as depicted in Table 1. However, one of the seven participating institutes was not represented.

Comparability of the consultations

The consultations of the first and second measurement were comparable with respect to all controlled aspects as described in the Methods section. All ICPC categories were represented with the greatest contribution of the categories L (tractus locomotorius), R (tractus respiratorius) and S (skin). According to the ACCS about 60% of the consultations were rather

easy, while about 40% were moderately to rather difficult.

MAAS-Global scoring list

Table 2 presents the mean scores on the 11 MAAS-items and the total test, for both trainees and GPs.

When comparing the results of the first and second measurement, hardly any difference is seen. Only the scores of the items 'summarizing' and 'flexibility in the communication with the patient' were significantly higher at the second measurement, but differences were small. With regard to the total test, the mean score slightly improved at the end of training (2.4) compared to the start (2.2). The highest scores were found on communication skills dealing with diagnosis, ordering and flexibility (scores > 3). The lowest scores were found on communication skills dealing with clarification of the reason for encounter, evaluation of the consultation, emotions, summarizing and exploration of expectations and feelings (scores < 2).

According to the criteria of the scoring scale, the performance of the trainees towards the end of training was unsatisfactory or doubtful for all items except 'flexibility', which, with a score of 3.9, approximated a satisfactory score. The overall performance was unsatisfactory.

In the comparison between the scores of the trainees at the end of training and the experienced GPs, again little difference was found. Only for 'communication about the management plan' and 'evaluation of the consultation' was some significant difference found.

DISCUSSION

In this study we tested the hypothesis that a postgraduate training for general practice, comprising special, longitudinal communication training and a rich clinical context, would favour the acquisition of communication skills of trainees. This hypothesis could not be confirmed. Although some increase in overall communication skills was found, this increase was minimal in view of a 27-month training period. Moreover, the overall level was unsatisfactory. With regard to the scoring at the individual items of the MAAS-Global list, two patterns can be distinguished. Firstly, the level of some communication skills was already relatively high at the first measurement

Table 2 Mean MAAS-Global item and total scores of the trainees and the GPs (scoring scale 0–6*)

Items	Trainees (<i>n</i> = 25)		GPs (<i>n</i> = 94)
	Start of training Mean (SD)	End of training Mean (SD)	Mean (SD)
<i>Skills per phase</i>			
Opening	2.4 (0.6)	2.7 (0.6)	2.8 (0.6)
Clarification of the reason for encounter	1.4 (0.6)	1.5 (0.7)	1.4 (0.7)
Communication about the diagnosis/hypothesis	3.2 (0.6)	3.3 (0.6)	3.1 (0.6)
Communication about the management plan	2.9 (0.5)	2.9 (0.6)**	2.6 (0.5)**
Evaluation of the consultation	0.7 (0.4)	0.8 (0.5)**	1.4 (0.5)**
<i>General skills</i>			
Providing information	2.8 (0.5)	2.8 (0.4)	2.9 (0.5)
Dealing with emotions	0.9 (0.5)	1.0 (0.5)	1.0 (0.5)
Summarising	1.5 (0.5)†	1.7 (0.6)†	1.7 (0.8)
Ordering	3.2 (0.5)	3.4 (0.6)	3.5 (0.6)
Flexibility in the Communication	3.6 (0.6)†	3.9 (0.5)†	4.0 (0.6)
Exploration of expectations and feelings	1.4 (0.7)	1.7 (0.5)	Not assessed
Total	2.2 (0.4)†	2.4 (0.4)†	2.4 (0.4)

*0 = absent, 1 = bad, 2 = insufficient, 3 = doubtful, 4 = sufficient, 5 = good, 6 = excellent.

† *P* < 0.05 (paired *t*-test).

** *P* < 0.05 (*t*-test).

(opening, communication about diagnosis and management plan, providing information, ordering and flexibility). These are the more traditional aspects of patient–doctor interaction (corresponding to history taking, physical examination, diagnosis and treatment, and aspects of routine and structure). Apparently, trainees have learnt these skills to some extent in their undergraduate education. The level of these skills is, however, still unsatisfactory and one would have expected it to increase during postgraduate training. Secondly, and remarkably, for the more basic communication skills (clarification of the reason for encounter, evaluation of the consultation, dealing with emotions, summarising and exploration of expectations and feelings) scores were low both at the start and towards the end of training, with the exception of ‘summarising’, where a small but significant improvement was found. This is all the more surprising, because important aspects such as ‘clarification of the reason for encounter’ and ‘exploration of expectations and feelings’ were strongly emphasized during the training, but apparently without noticeable effect.

Both the lack of acquisition of communication skills and the unsatisfactory final level indicate a striking

shortcoming of postgraduate training in general practice. The important question it raises is whether or not such skills are subsequently acquired during independent clinical practice. The results of the reference group of experienced GPs suggest that GPs do not acquire communication skills, as the reference group performed more or less comparably to the trainees.

For a discussion of these findings three aspects will be considered: the design of the study, the instrument and the training of communication skills.

Design of the study

There are some limitations in the design of the study. The population under study was rather small, although representative. Participation was also voluntary, which favours selection of good communication performers rather than bad ones. Another shortcoming is that the first measurement was not a real start measurement. Perhaps the increase would have been greater with a real start measurement. Research into the effect of postgraduate training on the acquisition of knowledge and skills shows the

greatest growth in the first six months.^{33,34} Still, 27 months remained for improvement. Furthermore, it is recommended in the literature to measure communications skills on different levels including knowledge, attitude, actual performance and patient outcome.^{3,35} It is possible that with different measures, more training effect would have been found. Finally, in our study we have assessed communication skills on the 'does' level, according to the theoretical concept of clinical assessment as devised by Miller.³⁶ This implies that the extent to which trainees put into practice their communication skills is tested rather than their capacity to communicate. Perhaps a greater increase in communication skills would have been shown when communication skills were assessed in, for instance, an Objective Structured Clinical Examination (OSCE). Nevertheless, the effect of training should also be reflected in the performance in real practice. Therefore, our results emphasise the need to give attention to the problems trainees experience when they have to put their communication skills into real practice.

Instrument

The instrument to measure performance may have shortcomings. The MAAS-Global list is a case-independent instrument and, moreover, it requires all items to be completed. Research into medical competence has shown that competence is highly content related, but that this is less dramatic for communication.²⁹ Thomson *et al.* found that performance on similar cases, such as in our study, is modestly comparable.³⁷ Still, the question remains whether all communication skills of the MAAS-Global list are required in each general practice encounter. Fraser *et al.* reported a study into the validity and reliability of the Leicester assessment package, an instrument to measure competence in general practice consultation.³⁸ They allow examiners flexibility to adjust their construct of competence to match the particular challenges posed in each consultation. Winefield *et al.* showed that patient-centredness was lowest in straightforward consultations.³⁹ As our consultations were rather simple, this may explain why skills such as 'dealing with emotions' or 'exploration of expectations and feelings' scored so low. However, it cannot explain the low score for 'clarification of the reason for encounter'. In our view, this item is essential in almost every encounter and certainly in encounters with new illness episodes, as was the case in our study.

Furthermore, although the MAAS-Global list generally reflects the learning objectives of the communication training, it may not reflect the objectives of all individual trainers and trainees. There is a lot of discussion about adequate communication in general practice. Opinions about good communication change during the time, due to changes in society and GPs' tasks.⁴⁰ In contrast with medical knowledge and skills, which are more evidence based and less open for discussion, communication is more affected by personal convictions and attitudes. This may reduce the chance of finding training effects.⁸ On the other hand, the reliability was high, indicating that the repeated measurements across consultations rank ordered the trainees consistently. Since different raters rated different consultations, this can be no spurious effect of a possible halo effect across raters. Different consultations apparently 'agreed' on the rank ordering of trainees in terms of their communication ability.

Finally, in our study we have used the criteria of the ratings list to judge whether the performance level of the trainees was satisfactorily. Although the judgement was made based on the actual performance of the examinees, which generally provides a more lenient standard of adequacy than a procedure based on the content of the test,⁴¹ its credibility and reliability have not been investigated. Perhaps another standard setting procedure would have provided a higher level of performance. Therefore, it is recommended to examine standard setting procedures for performance on communication in real practice.

Communication training

The communication training may have had shortcomings. With regard to the training at the training institutes, it seems that appropriate educational methods were used.²³ Moreover, the trainees appreciated the communication training the most of all special education they received.²⁷ They also felt more confident in performing communication skills at the end of training than at the start of it.⁴² Perhaps communication needs more attention in the second year, in which trainees rotate through hospitals, clinics for chronically ill patients and psychiatric outpatients clinics. Williams *et al.* found that preregistration house officers improved their communication skills in general practice, but that it was difficult for them to bring their improved skills back into the hospital setting.⁴³ Also patient feedback did not occur as an education tool; Greco *et al.* found that this was an effective intervention with regard to

improving communication skills.²⁴ Apart from special communication training, a significant role was reserved for the GP-trainer as model. Research has shown that Dutch experienced GPs and GP-trainers do not always put into practice the communication skills that have been learnt during postgraduate training.^{28,44,45} Therefore, their model function may have been less adequate.

CONCLUSION

The results of this study suggest that communication skills do not improve in a three-year postgraduate training programme, comprising both a rich clinical context and a special, longitudinal communication training, as was recommended in the literature. This striking finding raises many questions about the teaching and assessment of communication skills. Although further research is needed to answer these questions, some recommendations for the near future can be made.

For the teaching of communication skills, it is recommended to add patient feedback as an educational method. Also, more attention should be given to the problems trainees experience when they put into practice the communication skills they have learnt at the institute. Although there is a role here for the GP-trainer, the finding that the performance of GPs is comparable to that of trainees may indicate that they have not the capacity to do that. Therefore, it is recommended as well to focus on the GP-trainer. This may imply an extra training in communication skills to be an adequate role-model or education in coaching trainees with the performance of communication skills in real practice. Finally, communication skills should receive greater attention during the periods that trainees rotate through hospitals.

For the assessment of communication skills, it is recommended to use various instruments to measure (change in) communication skills (e.g. knowledge, performance in an OSCE and in real practice, and patient satisfaction). Moreover, the assessment of performance in real practice should be more consultation-specific, implying that the examiners are allowed to adjust their construct of adequate communication depending the problem at hand.

CONTRIBUTORS

Kramer, Düsman, Tan, Grol and van der Vleuten contributed to the conception, design, analysis and

interpretation of the data. Kramer, Jansen, Tan, Grol and van der Vleuten contributed to the drafting and critical revision of the manuscript.

FUNDING

This study was initiated by the Registration Committee for Postgraduate Training in General Practice (HVRC), financially supported by the Foundation of Postgraduate Training in General Practice (SBOH) and executed by the National Centre for Evaluation of Postgraduate Training in General Practice (SVUH).

ACKNOWLEDGEMENTS

We would like to thank all the trainees who took part in the study. We are grateful for the support from the GP-trainers and the staff of the participating institutes for postgraduate training in general practice. We also thank Paul Ram for providing the scores of the experienced GPs and for training the observers, and Peter Zuithoff for his contribution in the data analysis. We are grateful to IJsbrand Kramer for help with English in the writing of this paper.

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Received 8 November 2002; editorial comments to authors 22 January 2003, 6 August 2003; accepted for publication 30 September 2003