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Comparison of Communication Skills in Medical Residents With and Without Undergraduate Communication Skills Training as Provided by the Faculty of Medicine of Gadjah Mada University

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ABSTRACT **Objective:** *To promote better doctor-patient relationships in clinical practice, many medical faculties have introduced practical communication skills training programs for their students. This study is aimed at comparing the communication skills of graduates of the Faculty of Medicine of Gadjah Mada University, Indonesia, educated with and without communication skills training as perceived by their patients and by the graduates themselves.*

Methods: *Over 300 patients were seen by 18 medical residents trained in communication skills before graduation and 30 residents who had not attended this training. After consultation patients and residents completed a 39-item questionnaire addressing the doctor's communication behavior skills. In the questionnaires completed by patients the desired communication behavior of doctors was also rated.*

Results: *Patients did not observe any differences in communication behavior skills among residents who received training and those who did not. These two groups of trained and non-trained residents assessed their own communication behavior skills. On 4/39 questionnaire items patients rated the communication behavior skills of trained residents lower than the residents themselves and the ratio was 13/39 for non-trained residents. A significant gap was noted between doctors' communication behavior skills as observed and desired by their patients (*$p < 0.001$).

Conclusions: *Undergraduate communication skills training in the institution under study could not be demonstrated to illustrate a difference in the communication behavior skills of its graduates from graduates from the same institution who did not attend communication skills training. Trained graduates, however, were more aware of communication*

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behavior skills as being preferred by their patients than their peers who were not trained in communication behavior skills training during their undergraduate studies.

KEYWORDS *Communication skills, doctor-patient relationship.*

Introduction

Clinical communication skills encompass a series of skills that facilitate the communication between doctor and patient (Kurtz *et al*., 1998). Doctors who are skillful at communicating may more easily identify the needs of the patient and provide an adequate response to the patient's ''illness perspective'' (e.g. questions, worries and concerns), which may also assist in promoting the doctor's effective management of the patient's health concern (Roter, 2000; Mead *et al*., 2002; Mead & Bower, 2002). However, during interviews of clients, most doctors tend to concentrate on aspects associated with ''disease'' (e.g. signs and symptoms) rather than on the patient's unique experience of his or her ''illness'', including the patient's ideas concerning the cause and outcomes of the disease (Tuckett *et al*., 1985; Kurtz *et al*., 1998). This was illustrated by a study showing that doctors interrupted their patients' opening statements after a mean period of 18 seconds (Beckman & Frankel, 1984). This behavior may lead to the loss of valuable information that is vital to arriving at a correct diagnosis. Brushing aside patients' concerns creates a negative doctor and patient relationship (Cassell, 1985). To correct this behavior of doctors over the last decades, many medical faculties introduced practical communication skills training for their students. Communication behavior skills training is often included as part of clinical skills training programs (Anonymous, 1997; Suryadi, 2000; Van Dalen, 2001). Some studies showed superior performance of students trained in communication behavior skills, in terms of acquiring accurate and relevant information from patients (Van Dalen, 2001). Similar observations were made with respect to students trained in communication behavior skills during their clerkship in Psychiatry (Rutter & Maguire, 1976; Maguire *et al*., 1986a; Maguire *et al*., 1986b). This study aimed to compare the communication behavior skills of graduates from the Faculty of Medicine of Gadjah Mada University in Yogyakarta, Indonesia (FM-GMU), educated with and without communication behavior skills training as perceived by their patients and the medical residents themselves. As of 1992, FM-GMU has offered a problem-based learning (PBL) track in parallel to the traditional curriculum. Students in the PBL track attended a communication behavior skills training program in each of the first eight semesters of the curriculum, whereas their peers in the traditional program were not offered this training. Skills training in the PBL track covered the following aspects of doctor-patient communication: (1) initiating a session; (2) building a trusting relationship; (3) exploring the patient's primary and secondary problems; (4) taking a patient's history,

(5) hetero-anamnesis[1], (6) giving suggestions/patient education/refusing a patient's unjustified request, (7) counseling, and (8) health promotion (Budiharjo, 2000).

In this study we addressed both actual communication behavior skills (as included in the resident's behavior on the day the pertinent questionnaires were answered) and desirable communication skills (the preferred behavior of doctors) as judged by the medical residents and their patients.

Materials and methods

The setting for this study was Sardjito Hospital outpatient clinics in Yogyakarta, Indonesia; Sardjito Hospital functions both as a district hospital and as a provincial reference hospital. Its outpatient clinics are visited by people from all socio-economic strata including government employees who have health insurance and also students.

The subjects were 48 doctors who graduated less than ten years ago from FM-GMU. Over that time span between 100–150 students graduated annually and about 20% of them entered residency training programs in Sardjito Hospital. Eighteen of the 48 had been trained in communication behavior skills during their undergraduate medical program (''trained doctors'', TD) while the other 30 doctors did not receive this training (''non-trained doctors'', ND). The 18 TD remained from all available 23 TD medical residents in July–August 2003 after exclusion of medical residents in Pediatrics and Psychiatry to avoid hetero-anamnesis. The 30 ND were a convenience sample out of 185 ND (non-Pediatrics, non-Psychiatry) medical residents limited by available resources and time constraints. This sample size surpassed the minimum sample size of 10% as recommended by Crowl (1996).

Five to seven patients who were seen in one day by one of the selected medical residents were asked to complete a questionnaire immediately after the consultation. At the end of his/her duty on that same day, the doctor was also asked to complete a parallel questionnaire and each resident participated only once.

Questionnaires were constructed based on the contents of the communication behavior skills syllabus as used in the skills laboratory of FM-GMU (Budiharjo, 2000) and communication trainings addressing patient perspectives and concerns as described in the literature (Maguire *et al.*, 1986b; Silverman *et al.*, 1998; Van Thiel *et al.*, 2000; Quang, 2003). Both questionnaires as presented to patients and doctors had 39 items to be scored on a 5-point Likert scale (1 = highly unsatisfactory; 2 = unsatisfactory; 3 = neutral; 4 = satisfactory; 5 = highly satisfactory). Patients scored each item as actually observed

[1]Heteroanamnesis refers to taking a patient's medical history from the patient's relative or friend because the patient cannot speak for her/himself (e.g. in the case of a baby or a mentally disturbed patient).

performance (''How *did* the doctor perform today?'') and as desired performance (''Which score would you *prefer* the doctor to reach?'').

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 10 (Glaser, 2001). Analysis of the questionnaires' reliabilities by calculation of Cronbach's alpha (Crowl, 1996) yielded a coefficient of 0.971 for the questionnaire as presented to patients and 0.974 for the questionnaire presented to doctors. For this study, those who attended communication training and those who did not attend were considered as independent variables and medical residents' and patients' scores on the questionnaires were considered as dependent variables. In comparing patients' scoring of TD and ND, and of scoring of any item by medical residents and patients, respectively, a *t*-test for independent samples was applied. The difference between observed and preferred performance as scored by patients was analyzed using a *t*-test for paired samples.

Results

Forty-eight medical residents completed the questionnaire; 18 TD and 30 ND. On average they had been 6.8 years in training as residents (range 1.5–9.0 years). There was no significant difference in the mean period post-training for the two groups of residents. The gender distribution of the 48 TD and ND over six clinical specialties and General Practice is shown in Table 1.

Mean scores by patients on the items in the questionnaire are presented in Table 2. No item on the questionnaire was scored significantly different by patients for TD and ND. On 4 items, patients' score of TD's performance was significantly lower than TD's self-assessment of performance ($p < 0.05$; see Table 3). These 4 items were diverse and included proper non-verbal behavior,

Table 1. Participating trained and non-trained doctors

	Trained doctors (TD)			Non-trained doctors (ND)			Total
Specialty	Male	Female	Total	Male	Female	Total	participants
Surgery	3		3	3		3	6
Obstetrics/Gynecology	1		1	1	1	2	3
Ophthalmology	1	2	3	4	4	8	11
Dermatology-Venereology		4	4		6	6	10
Ear-Nose-Throat Surgery	1		1			0	1
Neurology		1	1			0	1
General Practice	1	4	5	3	8	11	16
Total participants	7	11	18	11	19	30	48

Table 2. Comparison of communication skills of trained and non-trained doctors as judged by their patients

Issues	Items The doctor...	Performance of trained doctors (TD) Mean score*; (*n*)	Performance of non-trained doctors (ND) Mean score*; (*n*)
Opening the session; negotiating agenda	Greeted the patient	3.51 (83)	3.65 (144)
	Clarified his role	2.76 (46)	2.75 (83)
	Identified patient's personal identity	3.62 (84)	3.34 (131)
	Negotiated the agenda for this visit	3.71 (103)	3.97 (164)
Listening, responding, building relation	Was open to the patient	4.21 (121)	4.19 (206)
	Encouraged the patient to tell story	4.16 (116)	4.13 (199)
	Was actively listening to the patient	4.25 (115)	4.14 (200)
	Gave the patient time to think	4.02 (115)	4.01 (201)
	Showed empathy	3.56 (89)	3.60 (157)
	Picked up the patient's non-verbal cues	3.69 (99)	3.56 (171)
	Used proper non-verbal behavior	4.58 (122)	4.62 (206)
	Treated the patient respectfully	4.52 (122)	4.59 (206)
Elucidating patient's illness perspective	Elicited prime reasons for patient's visit	4.09 (113)	4.19 (199)
	Elicited other reasons for patient's visit	3.22 (79)	3.42 (138)
	Identified patient's strongest concern	3.77 (113)	3.88 (188)
	Identified patient's illness perspective	4.02 (119)	3.88 (199)
	Identified impact of problem on patient	3.47 (111)	3.72 (181)
	Noticed the patient's psycho-social stressor	3.28 (57)	3.01 (99)
History taking (medical aspects)	Identified patient's major health problem	4.42 (118)	4.29 (190)
	Identified present & past history (anamnesis)	3.47 (77)	3.58 (117)
	Identified family disease history	3.62 (86)	3.56 (135)

(*continued overleaf*)

Table 2. (*Continued*)

Issues	Items The doctor...	Performance of trained doctors (TD) Mean score*; (*n*)	Performance of non-trained doctors (ND) Mean score*; (*n*)
Explanation and advice	Shared his thoughts with the patient	3.19 (94)	3.30 (157)
	Matched the patient's intellectual level	3.16 (81)	3.11 (146)
	Categorized his information	4.17 (114)	3.99 (190)
	Provided suggestions	4.24 (120)	4.12 (198)
	Provided essential information	4.31 (117)	4.17 (195)
	Provided guidance and counseling	4.21 (116)	4.04 (187)
	Repeated advice given	3.62 (98)	3.71 (146)
	Explained refusal of patient's request	3.77 (87)	3.66 (157)
	Checked patient's understanding	3.75 (111)	3.99 (178)
Negotiating a plan	Elicited patient's responses	3.63 (111)	3.81 (188)
	Identified the patient's perceived barriers	3.46 (108)	3.82 (177)
	Identified the patient's expected benefits	3.81 (113)	3.83 (189)
	Identified the patient's expectations re. negotiating mutual plan	3.82 (112)	3.86 (186)
	Explored the patient's motivation	3.81 (111)	3.73 (181)
	Encouraged the patient to contribute ideas	3.27 (92)	3.51 (152)
	Encouraged the patient to ask questions	4.16 (122)	4.14 (191)
	Discussed options with the patient	3.49 (99)	3.70 (153)
Summarizing	Summarized the discussion	4.10 (112)	4.06 (112)

*Items were scored on a 5-point Likert scale. No significant difference between TD and ND was found on any item.

Table 3. Self-evaluation of communication skills by trained and non-trained doctors

Issues	Items The doctor…	Trained doctors (TD) Mean score*; (*n*)	Non-trained doctors (ND) Mean score*; (*n*)
Opening the session; negotiating agenda	Greeted the patient	3.94 (18)	3.67 (30)
	Clarified his role	2.93 (14)	2.78 (23)
	Identified patient's personal identity	3.78 (18)	3.50 (30)
	Negotiated the agenda for this visit	4.00 (18)	4.17 (30)
Listening, responding, building relation	Was open to the patient	4.22 (18)	4.33 (30)
	Encouraged the patient to tell story	4.28 (16)	4.43 (30)
	Was actively listening to the patient	3.94 (18)	3.93 (30)
	Gave the patient time to think	4.11 (18)	4.10 (30)
	Showed empathy	3.78 (18)	4.00 (30)
	Picked up the patient's non-verbal cues	3.72 (18)	4.03 (29)
	Used proper non-verbal behavior	4.00 (18)	4.33 (30)
	Treated the patient respectfully	4.44 (18)	4.53 (30)
Elucidating patient's illness perspective	Elicited prime reasons for patient's visit	4.33 (18)	3.87 (30)
	Elicited other reasons for patient's visit	3.61 (18)	3.63 (30)
	Identified patient's strongest concern	3.89 (18)	3.87 (30)
	Identified patient's illness perspective	3.72 (18)	4.07 (30)
	Identified impact of problem on patient	3.83 (18)	3.83 (30)
	Noticed the patient's psycho-social stressor	3.56 (18)	3.56 (30)
History taking (medical aspects)	Identified patient's major health problem	4.28 (18)	4.20 (30)
	Identified present & past history (anamnesis)	3.78 (18)	3.62 (30)
	Identified family disease history	4.33 (18)	4.03 (30)
Explanation and advice	Shared his thoughts with the patient	3.47 (17)	3.70 (30)
	Matched the patient's intellectual level	3.47 (17)	3.72 (29)
	Categorized his information	3.94 (18)	4.13 (30)
	Provided suggestions	4.39 (18)	4.47 (30)

(*continued overleaf*)

Table 3. (*Continued*)

Issues	Items The doctor…	Trained doctors (TD) Mean score*; (*n*)	Non-trained doctors (ND) Mean score*; (*n*)
	Provided essential information	4.33 (18)	4.47 (30)
	Provided guidance and counseling	3.94 (18)	4.17 (30)
	Repeated advice given	3.28 (18)	3.69 (29)
	Explained refusal of patient's request	4.28 (18)	4.53 (30)
	Checked patient's understanding	3.33 (18)	3.53 (30)
Negotiating a plan	Elicited patient's responses	3.94 (18)	3.97 (30)
	Identified the patient's perceived barriers	4.00 (18)	4.10 (30)
	Identified the patient's expected benefits	3.94 (18)	4.23 (30)
	Identified the patient's expectations re. negotiating mutual plan	3.89 (18)	4.23 (30)
	Explored the patient's motivation	3.89 (18)	4.10 (30)
	Encouraged the patient to contribute ideas	3.72 (18)	3.97 (30)
	Encouraged the patient to ask questions	4.00 (18)	4.27 (30)
	Discussed options with the patient	3.83 (18)	4.03 (30)
Summarizing	Summarized the discussion	3.67 (18)	3.69 (29)

*Items were scored on a 5-point Likert scale. No significant difference between TD and ND was found on any item.

taking a family history, explaining refusal of a patient's request and identification of the patient's barriers. Comparison of patients' perception of ND's performance and ND's self-assessment yielded 13 items with a significantly lower mean score by the patients ($p < 0.05$). Five of these items addressed the issue of ''Explanation and advice''; three of these items addressed ''Listening, responding, building relations'' and another three items ''Negotiating a plan''.

Patients of TD scored 24/39 items on average below 4.0 (defined as ''satisfactory'' on the Likert scale) and TD gave themselves an average score below 4.0 on 25/39 items. Thus, scoring of TD's communication behavior by patients and by themselves was not significantly different. Patients of ND scored 26/39 items below 4.0 and ND gave themselves an average score below 4.0 on 17/39 items. In this case scoring of ND's communication behavior by patients is significantly different from their own assessment ($p < 0.05$). In summary, patients did not observe any difference in communication behavior among TD and ND, but TD rated their own communication behavior significantly more in agreement with the scores given by their patients than ND did.

Self-evaluation by TD and ND of their communication skills did not yield a significance difference on any item (Table 3). Comparison of the performance of both ND and TD medical residents' as observed and as desired by their patients did however yield significant differences on all 39 questionnaire items ($p < 0.001$).

When performance of doctors as desired by patients was compared with the actual performance of all (trained and non-trained) medical residents trained in this study, significant higher scores were found on all 39 items ($p < 0.001$, Table 4). Differences between mean score ranged from 1.49 ($\pm$SD 1.31) to 0.27 ($\pm$SD 0.56); the overall mean difference was 0.80 ($\pm$SD 0.96). Through this questionnaire, patients expressed their appreciation of communication skills in doctors, but also demonstrated shortcomings with respect to the communication skills of the medical residents who attended them.

Discussion

This study investigated the communication skills of graduates from FM-GMU enrolled in post-graduate training for seven different specializations in the same hospital. Part of the graduates had followed an undergraduate curriculum with PBL and included a communication skills training program (''TD''); the other graduates had followed a conventional curriculum without such training (''ND''). Patients did not notice a significant difference in communication behavior between TD and ND. Furthermore, patients' mean scores were below 4.0 (''satisfactory'') for 24/39 questionnaire items for TD and 26/39 items for ND, reiterating the failure of patients to discriminate between TD and ND. The findings suggest that the communication skills training program offered during undergraduate training had not persistently changed TD's communication

Table 4. Comparison of observed and desired performance of all doctors (TD + ND) as scored by their patients

Items The doctor....	Paired scores of observed and desired behavior*				
	Mean observed	Mean desired	*n*	*p*	Mean difference ± SD
Clarified his role	2.75	4.24	129	<0.001	1.49 ± 1.31
Matched the patient's intellectual level	3.14	4.20	226	<0.001	1.16 ± 1.09
Encouraged the patient to contribute ideas	3.44	4.54	252	<0.001	1.10 ± 1.13
Greeted the patient	3.62	4.67	225	<0.001	1.05 ± 1.15
Shared his thoughts with the patient	3.25	4.28	250	<0.001	1.03 ± 1.12
Noticed the patient's psycho-social stressor	3.16	4.18	152	<0.001	1.02 ± 1.20
Took a physical anamnesis	3.55	4.56	193	<0.001	1.01 ± 1.14
Identified impact of problem on patient	3.62	4.59	292	<0.001	0.97 ± 1.05
Discussed options with the patient	3.62	4.56	252	<0.001	0.94 ± 0.98
Explained refusal of patient's request	3.71	4.64	243	<0.001	0.93 ± 0.97
Explored the patient's motivation	3.76	4.68	292	<0.001	0.92 ± 1.01
Elicited other reasons for patient's visit	3.35	4.26	212	<0.001	0.91 ± 1.11
Took a family's disease history	3.58	4.49	219	<0.001	0.91 ± 1.07
Identified the patient's perceived barriers	3.68	4.60	285	<0.001	0.91 ± 0.96
Picked up the patient's non-verbal cues	3.62	4.50	268	<0.001	0.88 ± 1.05
Checked patient's understanding	3.70	4.57	289	<0.001	0.87 ± 0.98
Repeated advices given	3.67	4.52	242	<0.001	0.86 ± 1.16
Elicited patient's responses	3.74	4.58	299	<0.001	0.84 ± 0.99
Negotiated the agenda for this visit	3.87	4.63	267	<0.001	0.84 ± 0.99
Identified the patient's expectations re. negotiating mutual plan	3.82	4.66	298	<0.001	0.84 ± 0.91
Identified patient's strongest concern	3.84	4.66	301	<0.001	0.83 ± 0.88
Showed empathy	3.64	4.45	239	<0.001	0.81 ± 1.09
Took patient's personal identity	3.49	4.30	208	<0.001	0.81 ± 1.04

(*continued overleaf*)

Table 4. (*Continued*)

Items The doctor….	Paired scores of observed and desired behavior* Mean observed	Mean desired	*n*	*p*	Mean difference ± SD
Identified the patient's expected benefits	3.84	4.64	302	<0.001	0.80 ± 0.88
Identified patient's illness perspective)	3.93	4.71	318	<0.001	0.78 ± 0.90
Summarized the discussion	4.08	4.82	290	<0.001	0.73 ± 0.99
Categorized his information	4.06	4.79	304	<0.001	0.73 ± 0.94
Provided guidance and counseling	4.11	4.78	302	<0.001	0.67 ± 1.00
Gave the patient time to think	4.02	4.65	316	<0.001	0.63 ± 0.75

*Scores were given on a 5-point Likert scale.

behavior. Alternatively, this outcome could be ascribed to a difference in the patient populations attended by TD and ND, as we have no demographics on this population, or to the lack of effectiveness of this training. However, since TD attended 122 patients and ND 206 patients, we assume no bias in the composition and characteristics of these patient populations.

Differences were found, however in the degree by which TD and ND estimated their own communication behaviors. In only 4 out of 39 questionnaire items probing their communication behaviors TD's scored themselves significantly higher than their patients, whereas ND's scoring was higher on 13/39 items. This result suggests an over-estimation of their communication skills by the ND. This tentative conclusion was corroborated by the finding that TD scored themselves <4.0 (''below satisfactory'') on 25/39 items whereas ND did so on only 17/39 items.

One alternate explanation for the lack of evident effect of the training is that the survey questions had low discriminative powers. This is suggested by the high values for Cronbach's alpha calculated for the questionnaire as presented to the patients (0.971) and the doctors (0.974), respectively (Streiner & Norman, 1995). Furthermore, the survey had not been validated prior to the study. Consequently, we may have failed to detect differences in patient's perception of TD's and ND's communication behaviors and underestimated differences in TD's and ND's self-evaluation of their communication skills. Another explanation could be that the time was insufficient between training and assessment to demonstrate an effect of the communication skills training. Van Dalen (2001) stated that communication skills in trained undergraduate students increased more gradually than in non-trained peers, which eventually may lead to better retention and therefore awareness of communication skills. In our study the undergraduate programs followed by

TD and ND did not only differ with respect to communication skills training, they also differed with respect to the educational method experienced: the TD group was taught using PBL, whereas the ND group was taught through a traditional lecture format.

In order to improve retention of communication skills, the communication skills training program at the institution under study may have to be improved. Possibilities are: (1) making the program more longitudinal and improving its integration in the curriculum (Van Dalen, 2001); (2) using feedback techniques in the training (Maguire *et al*., 1986a), and (3) paying more attention to the importance of the patient's ''illness perspective'' in the training program (Stewart, 1995; Silverman *et al*., 1998; Maguire & Pitceathly, 2002).

Undergraduate communication skills training in the institution under study could not be demonstrated to yield a persistent change in the communication behavior of its graduates. Trained doctors however, stills seemed to be aware of communication behavior as preferred by their patients, in contrast to their peers who had not received communication skills training during their undergraduate studies.

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