The effect of educational intervention on intercultural communication:

results of a randomised controlled trial

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ABSTRACT

Background

Due to worldwide migration to Western countries, physicians are increasingly encountering patients with different ethnic backgrounds. Communication problems can arise as a result of differences in cultural backgrounds and poor language proficiency.

Aims

To assess the effectiveness of an educational intervention on intercultural communication aimed to decrease inequalities in care provided between Western and non-Western patients.

Design of study

A randomised controlled trial with randomisation at the GP level and outcome measurements at the patient level.

Setting

General practice in Rotterdam.

Method

Thirty-eight Dutch GPs in the Rotterdam region, with at least 25% of inhabitants of non-Western origin, and 2407 visiting patients were invited to participate in the study. A total of 986 consultations were finally included. The GPs were educated about cultural differences and trained in intercultural communication. Patients received a videotaped instruction focusing on how to communicate with their GP in a direct way. The primary outcome measure was mutual understanding and the secondary outcomes were patient's satisfaction and perceived quality of care. The intervention effect was assessed for all patients together, for the 'Western' and 'non-Western' patients, and for patients with different cultural backgrounds separately.

Results

An intervention effect was seen 6 months after the intervention, as improvement in mutual understanding (and some improvement in perceived quality of care) in consultations with 'non-Western' patients.

Conclusions

A double intervention on intercultural communication given to both physician and patient decreases the gap in quality of care between 'Western' and 'non-Western' patients.

Keywords

communication; cultural differences; ethnicity; quality of care; randomised controlled trial.

INTRODUCTION

Worldwide migration induces multicultural contacts in societies, including health care. However, multicultural contacts and communication are often complicated by language barriers, and obstructions are caused by different culturally defined views and perceptions.[1] Consequently, the physician–patient relationship may also be affected.[2–4] According to Kleinman, both physician and patient need to exchange each other's perceptions about the patient's illness (their 'explanatory models') in order to achieve understanding and agreement about diagnosis and treatment.[5] Lack of understanding and agreement is assumed to lead to less compliance and a reduction in perceived quality of care.[1,2] Kleinman also argued that 'uncovering and solving discrepancies in explanatory models' between physician and patient is determined by mutual understanding between them, as well as by general feelings, such as patient satisfaction and the patient's feeling that the physician has been

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How this fits in

Cultural differences between GPs and patients increase the chance of miscomprehension and can lead to patient non-compliance with treatment. A double educational intervention given to both physician and patient aimed to improve their intercultural communication, reduce their mutual misunderstanding and improve patients' perception of the quality of care. This intervention effect occurs only 6 months after GP training and is probably due to the slow changing of attitudes and communication style. The effect is the strongest in consultations with non-Western patients, who live between the traditional culture of their country of origin and Western culture. This is also the group of patients with the greatest improvement in comprehension with their physician.

considerate.[6–9] Misunderstanding and patient dissatisfaction tended to increase when the cultural gap between physician and patient was wider.[6,10,11]

By improving communication during the consultation 'discrepancy in explanatory models' can be reduced in order to achieve better mutual understanding and consequently better perceived care and patient compliance; this improvement can be achieved by instruction and training in communication of both physician and patient.[12–13]

The aim of this study is to assess the effect of an educational intervention on intercultural communication given to both GPs and patients (both Western and non-Western countries of origin) on mutual understanding and perceived quality of care.

The intervention aims to reduce differences in mutual understanding and perceived quality of care in consultations with patients of different native origins and its effect was assessed using a randomised controlled trial. We hypothesise that an educational intervention on intercultural communication, given to both GP and patient, could decrease inequalities in care between Western and non-Western patients.

METHOD

Participants

GPs were randomised to an intervention or a control group and the effects of the study were analysed at the patient level. Measurements took place at baseline (first measurement), and within 1 month (second measurement) and at 6 months (third measurement) after the GP intervention. At the three measurement times the same GP was involved, whereas the patients differed all the time. Blinding the GPs for the intervention was impossible as it involved training. Interviewers, experts and research assistants, who conducted preliminary data processing, were blinded for intervention assignment. Patients were ignorant about the group assignment of their GP. GPs with a practice population of at least 25% of patients with a non-Western country of origin were invited to participate by letter and by one repeat request by telephone. Inclusion criteria for the patients were a visit to their GP for a consultation on random days in February, May and November 2000 (in which months each general practice was visited once for measurement). We excluded adolescents aged 13–17 years because of expected problems in an interview due to the nature of the questions. A parent of the children aged up to 12 years was interviewed.

To estimate the sample size we considered our main outcome parameter, mutual understanding, as a dichotomous variable. Assuming a power of 80%, a significance level of 5%, a fraction of 0.5 mutual understanding in the control group, an absolute treatment effect of 0.2, taking the multilevel design into account and assuming an intracluster correlation of 0.2 and 20 patients per physician, 748 patients (corresponding with 38 physicians) are required for each measurement.[14]

Intervention

Both GPs and patients received intervention with the intention of improving the intercultural communication between them.

Patient intervention

This consisted of a 12-minute videotaped instruction in the waiting room for all patients immediately before the consultation; the videos were available in Dutch and the languages of the major ethnic minority groups (Moroccan–Arabic, Moroccan–Berber, Turkish). The main message was to instruct patients to communicate directly and to express freely any misunderstanding and disagreement. Two examples (one with unsatisfactory and indirect communication and one with satisfactory and direct communication of the patient) were used to illustrate the main message of the videotape.

GP intervention

This consisted of 2.5 days of training on intercultural communication for the GPs, based on Pinto's 'three-step method'.[15] First, the GPs were allowed to reflect on their own culturally-defined norms, views and communication style. Second, we aimed to improve sensitivity and knowledge about culturally-determined differences in views and behaviour (including communication style), mainly in patients originating from non-Western countries, and, third, to train the GPs in (self-chosen) strategies to solve the gaps in views and culturally-defined communication style. Two weeks later (in a final training session) any problems experienced were discussed and supplementary advice was given.

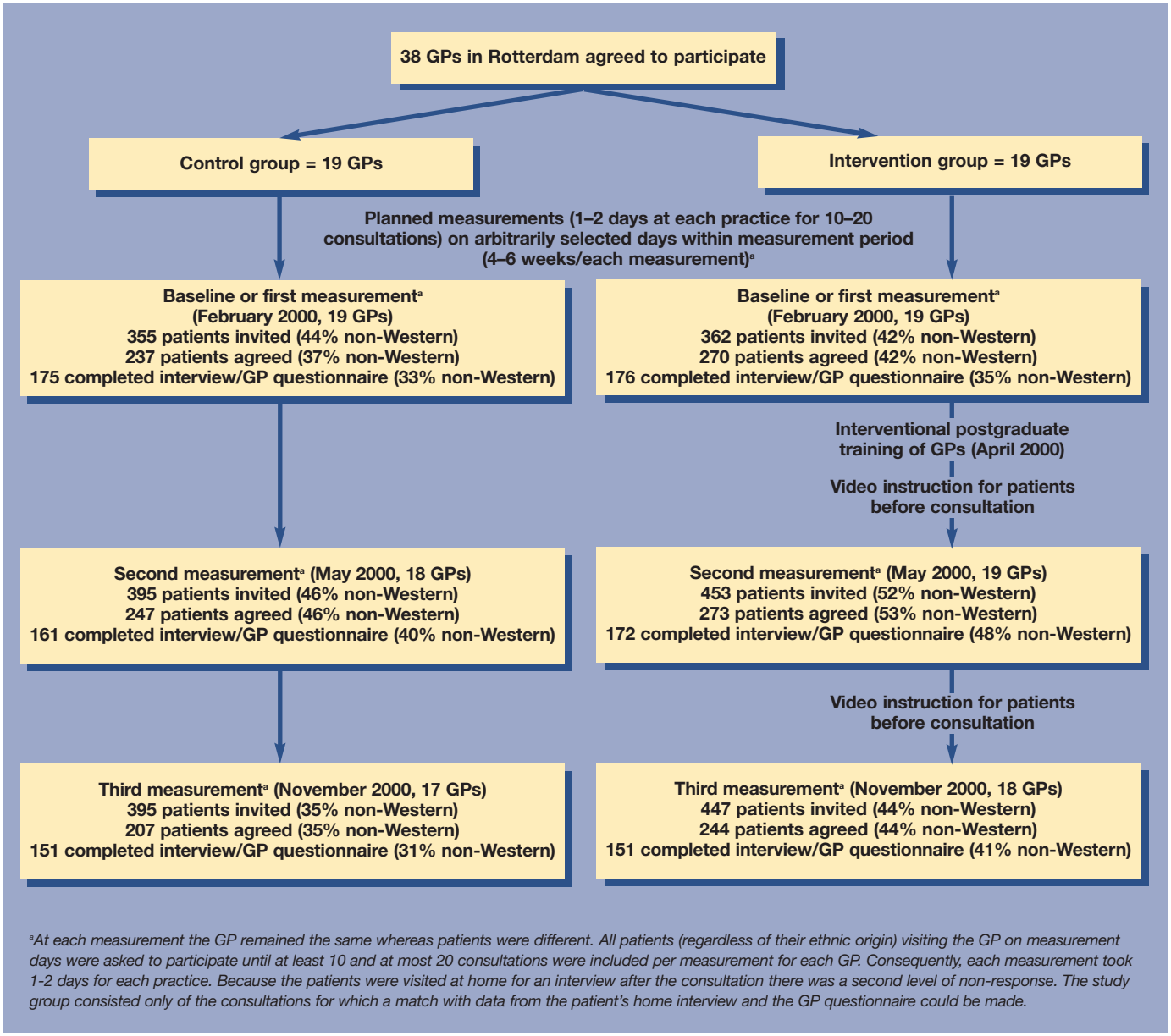

Figure 1. Flowchart of the levels of response of the patient population.

Measures

Data were collected by means of a GP questionnaire completed immediately after the consultation, and by means of patient interviews at home 3–8 days after the consultation. The GP questionnaire and the patient's home interview contained similar questions on the presenting health complaint, their own and the other's ideas about the cause of the health complaint and diagnosis, and on the proposed treatment or medical investigations.

To assess our primary outcome, mutual understanding between GP and patient, answers from the GP and patient about different aspects of the consultation were compared and scaled on a validated scale.[16] The response could range from -1 (total misunderstanding) to +1 (complete mutual understanding).

Secondary outcomes were the patient's satisfaction with the consultation and the patient's feeling that the physician had been considerate. Both these items were explored in the home interview with three answering categories (yes/doubtful/no) and answers were dichotomised ('yes' versus 'doubtful' and 'no'). A further outcome was quality of care and was measured by the validated questions of Quote-Mi (quality of care through patient's eyes) (JAM Harmsen, *et al*, unpublished data 2004).[17] Response to the Quote-Mi ranged from 1 (perceived poor quality) to 10 (perceived good quality).

Country of origin was based on own and parental country of birth: responders were divided into a 'Western' (mostly Dutch but also some patients from other West European, North American, Canadian and

Table 1. Patient characteristics.[a]

	Total study group		Western patients		Non-Western patients	
	n = 986	%	*n* = 614	%	*n* = 369	%
Age in years[b]						
0–12	9	0.9	2	0.3	7	1.9
18–29	185	18.9	77	12.6	107	29.2
30–49	383	39.2	205	33.7	177	48.4
50–65	231	23.6	164	26.9	66	18.0
>65	170	17.4	161	26.4	9	2.5
Monthly net income (€)						
<499	52	7.0	30	6.6	22	7.6
499–861	235	31.6	137	30.2	97	33.7
862–1224	249	33.5	141	31.1	108	37.5
1225–1587	122	16.4	84	18.5	38	13.2
1588–1951	57	7.7	41	9.0	16	5.6
>1951	28	3.8	21	4.6	7	2.4
Education						
Primary school not completed	46	4.7	19	3.2	27	8.0
Primary school completed	285	28.9	175	29.3	110	32.5
Lower professional[c] and secondary education	209	22.3	144	24.1	65	19.2
Medium professional[c] and secondary education	134	14.3	85	14.2	49	14.5
Higher secondary education	52	5.5	25	4.2	26	7.7
Higher professional education and university	111	11.8	81	13.5	29	8.6
Other	102	10.9	69	11.5	32	9.5
Self-perceived proficiency in Dutch						
Poor or speaks no Dutch	88	9.5	12	2.2	7.6	20.8
Average	148	16.0	29	5.2	119	32.5
Good	687	74.4	514	92.6	171	46.7
Sex						
Male	365	37.2	223	36.5	142	38.8
Female	615	62.8	388	63.5	224	61.2

[a]Missing data (not registered or refusal of information by patients): ethnicity (Western versus non-Western) n = *3, age* n = *8, income* n = *243, education* n = *47 language proficiency* n= *63, sex* n = *6. [b]The age band 13–17 years was not studied. [c]Lower/higher professional education (technical education and vocational education) and lower/higher secondary education.*

Australian origin) and a 'non-Western group' (mainly Turkish, Moroccan, Cape Verdean and Surinamese patients).[18]

Cultural background was assessed through the patient's score on the validated patient cultural background scale: on the basis of culturally defined norms and values patients were divided in modern, traditional and in-between (partly traditional/modern) group.[19]

Analysis

The effect on mutual understanding and perceived quality of care was analysed using multilevel multiple regression techniques adjusted for baseline values. Analyses were performed for all patients together and, because the focus of the intervention was on intercultural communication, sub-analyses were made for Western and non-Western patients and for patients with different cultural backgrounds (traditional, partly traditional/modern and modern).

'Satisfaction' and 'feeling that the GP had been considerate' was analysed at the physician level and the fraction of satisfied patients was calculated per physician and per measurement. Differences between the two patient groups were tested by means of regression analysis with adjustment for baseline fraction, weighing cases (physicians) with the total number of patients seen at baseline plus at the measurement concerned.

Table 2. Results of outcome measures at baseline and after intervention.

	Baseline		Immediately after GP intervention (Change from baseline)				6 months after GP intervention (Change from baseline)			
	I	C	Intervention		Control		Intervention		Control	
All patients										
Mean mutual understanding (range = -1–1)	0.067	0.135	0.089	(0.02)	0.153	(0.02)	0.153	(0.09)	0.144	(0.01)
Mean patient's perception of quality of care (range = 1–10)	8.68	8.53	8.69	(0.01)	8.92	(0.39)	8.76	(0.08)	8.67	(0.14)
Patient's satisfaction with the consultation (% yes)	84	86	83	(-1)	85	(-1)	87	(3)	82	(-4)
Patient's feeling that consideration was shown (% yes)	83	81	88	(5)	88	(7)	88	(5)	86	(5)
Western patients										
Mean mutual understanding (range = -1–1)	0.145	0.159	0.149	(0.004)	0.186	(0.03)	0.177	(0.03)	0.238	(0.08)
Mean patient's perception of quality of care (range = 1–10)	8.95	8.80	8.95	(0.0)	9.06	(0.26)	8.84	(-0.11)	9.04	(0.24)
Patient's satisfaction with the consultation (% yes)	92	86	85	(-7)	88	(2)	86	(-6)	85	(-1)
Patient's feeling that consideration was shown (% yes)	90	85	92	(2)	91	(6)	91	(1)	91	(-1)
Non-Western patients										
Mean mutual understanding (range = -1–1)	-0.074	0.085	0.028	(0.10)	0.097	(0.01)	0.127	(0.20)	-0.060	(-0.15)
Mean patient's perception of quality of care (range = 1–10)	8.16	8.02	8.38	(0.22)	8.69	(0.67)	8.61	(0.45)	7.87	(-0.15)
Patient's satisfaction with the consultation (% yes)	70	86	80	(10)	78	(-8)	88	(18)	77	(-9)
Patient's feeling that consideration was shown (% yes)	69	74	83	(14)	83	(9)	84	(15)	77	(3)

I = intervention group. C = control group.

RESULTS

Participants

One hundred and seventy GPs received a letter of invitation and 13 of these spontaneously enrolled. The remaining GPs were subsequently invited by telephone to participate. This telephone recruitment was stopped after calling 120 GPs as the maximum number of 38 GPs had been reached. In the intervention group all 19 GPs participated in the three measurements. In the control group one GP dropped out during the second measurement due to illness, and another in the third measurement due to cessation of the medical practice. All GPs (eight of whom were female) had worked for more than 5 years in their current practice setting. Two GPs had a non-Dutch (but Western) ethnic background and had lived and worked for more than 20 years in the Netherlands. Figure 1 is a flow diagram of data collection and the responses during the three measurement periods, according to the CONSORT statement.[20] The total net response of patients was 40% in the intervention group and 43% in the control group. Mutual understanding in consultations with non-Western patients was poorer than with Western patients, which was similar to our earlier findings.[21]

Patients with a non-Western country of origin refused more often to participate in the study (56% and 44% of the total number of refusals, respectively). At the home interview non-Western patients dropped out more often than Western patients did (55% and 45% of the total number of failed home interviews, respectively). Reasons for non-response at the home interview for non-Western and Western patients were that the patients were not at home (43% and 42.5%, respectively), refusal to make an appointment (14% and 15%, respectively), absence of a suitable interviewer (22% and 19%, respectively) and other reasons or unknown (21% and 24%, respectively). Both research groups did not essentially diverge in their pattern of non-response (Table 1; Figure 1).

The study group consisted of 986 consultations for which a match could be made between patient and GP data.

Effect of the intervention

The scores on all outcome measures in each measurement are shown in Table 2.

There are some differences at baseline between the intervention and control groups, but in general non-Western patients scored less affirmatively than Western patients did.

For the total patient population at 1 and 6 months after the intervention no differences were found between the intervention and control group in

Table 3. Intervention effect on primary and secondary outcomes with multilevel regression techniques 1 month and after 6 months after intervention.

	1 month			6 months		
	Difference between intervention and control group adjusted for baseline measured direct after the GP intervention			Difference between intervention and control group adjusted for baseline measured 6 months after the GP intervention.		
	Effect size (% of range[a])	ß	95% CI	Effect size (% of range[a])	ß	95% CI
All patients						
Mutual understanding	↓3.00	-0.06	-0.171 to 0.043	↑0.50	0.01	-0.103 to 0.129
Patient's perception of quality of care	↓3.00	-0.31	-0.742 to 0.127	↑0.20	0.02	-0.437 to 0.469
Patient's satisfaction with the consultation[a,b]	↓0.03		-0.124 to 0.068	↑0.03		-0.060 to 0.122
Patient's feeling that consideration was shown[a,b]	↓0.01		-0.107 to 0.096	↓0.01		-0.092 to 0.071
Western patients						
Mutual understanding	↓2.00	-0.04	-0.168 to 0.095	↓3.00	-0.06	-0.201 to 0.079
Patient's perception of quality of care	↓2.00	-0.22	-0.721 to 0.275	↓2.50	-0.25	-0.759 to 0.259
Patient's satisfaction with the consultation[a,b]	↓0.06		-0.191 to 0.079	↑0.02		-0.088 to 0.132
Patient's feeling that consideration was shown[a,b]	↓0.08		-0.214 to 0.059	↑0.02		-0.088 to 0.135
Non-Western patients						
Mutual understanding	↓4.00	-0.08	-0.246 to 0.082	↑11.00	0.21	**0.002 to 0.422**
Patient's perception of quality of care	↓4.00	0.40	-1.120 to 0.312	↑7.00	0.74	-0.005 to 1.494
Patient's satisfaction with the consultation[a,b]	↑0.03		-0.131 to 0.190	↑0.14		-0.031 to 0.305
Patient's feeling that consideration was shown[a,b]	↓0.03		-0.218 to 0.151	↑0.12		-0.043 to 0.287

[a]Size of the effect: ↓ decreased % of range / ↑ increased % of range of measure. [b]We computed per physician and per measurement the fraction of patients that were satisfied with ('felt GP had been considerate' during) the consultation. The difference between the two groups was tested by means of regression analysis with adjustment for baseline fraction, weighing cases (physicians) with the total number of patients seen at baseline plus at the measurement concerned.

primary and secondary outcomes, or for the Western patients alone (Table 3). For the non-Western patients, 6 months after the intervention there was an 11% improvement (95% confidence interval [CI] = 0.002 to 0.422) in mutual understanding and a 7% improvement (95% CI = -0.005 to 1.494) in the perceived quality of care; satisfaction and the feeling that the GP had been considerate also showed an effect in the desired direction. More detailed study of the patient's cultural background in the non-Western group showed that the partly traditional/modern group accounted for most of the effect on mutual understanding after 6 months (19% improvement, 95% CI = 0.027 to 0.535).

DISCUSSION

Summary of main findings

Our intervention on intercultural communication for both GPs and patients was effective in the non-Western patient group, which supports our aim of decreasing differences in outcomes of care between Western and non-Western patients. Both mutual understanding and perceived quality of care improved. The effect was almost completely explained by improvement within the group of the partly traditional/modern patients. We observed no effect when considering the total study population or in the Western patients alone. Despite a change in the perceived quality of care, more generic measures such as 'feeling that the GP had been considerate' and 'consultation satisfaction' did not change significantly, although there was a change in desired direction. A speculative explanation for this result is that for generic measures more time is needed.[22] We can only hypothesise why the effect was minimal within 1 month after the intervention and became more apparent after 6 months. It may be that changing one's personal approach, attitude and communication style in a very short time is difficult. It is unknown whether one intervention is sufficient to achieve consistent changes. In advertising, for example, the phenomenon of the repeatedly given message is widely employed and therefore retraining of physicians and instruction of patients needs to be given continuously. In our opinion, these results may provide an argument for more culturally centred

communication training in the education of medical students and vocational training of GPs.

Comparison with existing literature

The observed effect after 6 months is not quite in line with Kleinman's theory: that the larger the cultural distance between physician and patient the greater the misunderstanding.[5] Detailed analysis of our study and results from an earlier study showed that partly traditional/modern patients had the most misunderstanding with their physician.[21] Thus, for the traditional group other mechanisms such as satisfaction and the 'feeling that the physician was considerate' may be more important for mutual understanding. The success of physician's retraining is often regarded as minimal[23,24] and little is known about providing videotaped instruction to patients, especially non-Western patients.[25] Therefore, it is noteworthy that an effect was demonstrated in the targeted group of non-Western patients; these results also support those who claim a positive effect of retraining for physicians.[26,27]

We chose a double intervention, for both patients and physicians, because both parties are responsible for adequate communication in medical encounters and this approach conforms with Pinto's three-step method and Kleinman's theory of exchanging explanatory models.[5,15]

Strength and limitations of the study

There was a considerably high rate of non-response from GPs and a high refusal rate for non-Western patients. Participating GPs were highly motivated and therefore the results cannot be generalised. On the other hand, it should be considered that commitment with the subject matter is always necessary for effective learning. The positive intervention effect showed that improvement is possible even though awareness and commitment should be raised first. The differences in response from Western and non-Western patients (in both the intervention and control groups) may have negatively influenced the results due to loss of statistical power; the focus of our intervention was on patients with a more traditional cultural background and we could not include the planned number of patients. On the other hand, because the data were analysed with mutual understanding as continuous variables, the estimates in the power calculation were conservative (an overestimate of the number of patients needed).

Implications for research and clinical practice

A double intervention on intercultural communication showed improvement of mutual understanding between physicians and non-Western patients and decreased differences in outcomes of care. This finding should encourage greater efforts regarding the teaching of intercultural communication for medical students and physicians. The intervention would be most effective for physicians working with non-Western patients who recognise communication problems due to different cultural backgrounds and are willing to improve their intercultural communication. Students should also be taught that the patient's cultural background is a substantial part of their context. They should reflect and be aware of their own cultural norms and values and learn more about different culturally defined opinions and views. Patients also should be invited to communicate in a way that is expected by and helpful to the physician.

This study proves that cultural differences play an important role in medical consultations, but certainly these are not unbridgeable. More research, especially trials aiming to bridge the cultural gap between physician and patient, should be performed in order to reduce differences in quality of care between Western and non-Western patients.

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Ethics committee

University Ethical Commission of the Erasmus Medical Centre, University Medical Centre in Rotterdam (MEC 163.267/1997/122)

Competing interests

None

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