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## WEB PAPER

# Student diversity at Erasmus Medical Centre Rotterdam: does it make any difference?

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**ABSTRACT** In an ethnically diverse society cultural competence is indispensable for medical doctors. At present 10% of the Dutch population are first- or second-generation non-Western immigrants. With 8% Western and 18% non-Western immigrants, originating from 30 different countries, the 2001 Rotterdam first-year students highly out-rated the national average of immigrant medical students. Diverse student populations may enhance students' cultural competence but can also generate conflicts or even racism. This was the first Dutch study on expectations and experiences of medical students related to their ethnic and religious background. In December 2001 all first-year students were approached with an anonymous questionnaire, including statements on the expected influence of their culture and religion on their medical education (rated on a 1–5 Likert scale). In spring 2003 17 students from the same cohort, 8 immigrants and 9 ethnic Dutch, were interviewed extensively on their study experiences in a diverse student population. In 2001 the response rate was 90% (277/308), female–male ratio 63% (175/102). Non-Western immigrants expected for their medical education more benefits from their culture but also more obstacles than ethnic Dutch ( $p \leq 0.005$ ). Protestants and Muslims expected more obstacles than the non-religious and Catholics ( $p \leq 0.05$ ). In the interviews three main issues emerged: peer training in physical examination in mixed-gender groups, lack of attention to student diversity during education, and demand for education in cross-cultural medicine. Three incidents of perceived discrimination were reported. The ethnic Dutch students interviewed did not socialize much with immigrants, nor did students of both groups learn much from one another. Most students favoured mixed study groups. The diversity of the population does not seem to have caused serious problems, nor has it offered educational benefits. The challenge for educators is to provide systematic education in cultural competence and cross-cultural medicine, in which students and educators indeed practise communication across cultural borders.

## Introduction

Over recent decades Dutch medical doctors have been confronted with a growing number of immigrant patients, but medical schools have been slow to react to the challenge this poses to education. Only after the number of immigrant students increased did cross-cultural medical education become a point of concern for educators.

## Practice points

- The 2001 Rotterdam cohort of first-year students is both ethnically and religiously diverse. In theory, this diversity offers opportunities to nourish students' cultural competence.
- Three issues concerning cross-cultural education are mentioned by second-year students: training in physical examination in mixed-gender groups, lack of attention in the pedagogical approach to student diversity, and demand for education in cross-cultural medicine.
- In dealing with cross-cultural issues medical educators are confronted with conflicting principles, such as respect for individual student values versus general professional standards.
- Ethnic Dutch and immigrant students do not socialize much, nor do they seem to learn much from one another. Nevertheless they do value mixed study groups.
- Teachers and students of different cultures should get more involved and take the risk of disagreeing on certain issues if they really want to learn from one another.

## Diversity

Presently, 10% of the Dutch population consists of first- or second-generation non-Western immigrants. The top five countries of origin are Turkey, Surinam, Morocco, Dutch Antilles (with Aruba), and Iraq. In the four largest cities 30% of the total population and 50% of the 0- to 14-year-olds are non-Western immigrants (SCP, 2003).

Until recently the only available figures for Dutch medical students showed that 5% had a non-Western immigrant background (Hofman *et al.*, 2001). In 2001 we performed a survey of the ethnic and religious diversity of a single cohort of medical students at the University Medical Centre

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Rotterdam (Erasmus MC). Of all first-year students 8% were Western immigrants and 18% non-Western immigrants. Students originated from 30 different countries (Selleger *et al.*, 2003).

The vast majority of students, including immigrants, enter medical school on the basis of their secondary school certificate. This is examined in Dutch and includes Dutch as a compulsory subject. A small number of immigrant doctors are admitted through a special procedure, including certification of 'Dutch as a second language' at a fairly basic level. There is no affirmative action for minority students.

#### *Cultural competence*

It is now widely advocated that medical students be taught cultural competence, also called (cross)-cultural competency (Kai *et al.*, 1999; Morell *et al.*, 2002; Whitcomb, 2002; Thistlethwaite & Ewart, 2003; Wachtler & Troein, 2003; Betancourt, 2004; Rosen *et al.*, 2004). In a conceptual approach to cross-cultural medical education Betancourt (2003) stresses that cross-cultural attitudes, knowledge and skills are essential to medical professionalism and that all patients clearly stand to benefit. In 2000 the Dutch Council for Public Health stated that all medical curricula should include cross-cultural education (RVZ, 2000), but only two out of eight medical schools offered systematic compulsory cross-cultural education (Van Wieringen *et al.*, 2001).

In nourishing cultural competence one may benefit from cross-cultural experiences in a mixed teaching environment. A first step in cross-cultural communication is awareness of one's own cultural bias (Rosen *et al.*, 2004). Furthermore, a diverse student body enables students to exchange information and share value systems of different cultures as a foundation for cultural competence (Burrow, 1998; Whitla *et al.*, 2003). However, mixed student populations can also generate problems. Students and residents from ethnic or racial minorities have reported so-called 'everyday racism' from teachers, patients and colleagues. This has often gone unnoticed because single incidents seemed too trivial and students did not dare to speak up freely (Beagan, 2003; Hall *et al.*, 2004).

Recently Dutch medical students have pointed at problems in the pedagogical approach to student diversity. Several female Muslim students were hesitant to participate in the mutual training in physical examination in groups of mixed gender. They challenged the view that students should experience physical examination themselves in order to become a skilled and compassionate doctor. Thus different cultures in medical education are considered instructive in some instances but problematic in others.

#### *Research questions*

No data were available on expectations and experiences of Dutch medical students in a diverse student population. The first aim of our study was to examine first-year students' expectations of equal treatment and opportunities in their medical education in relation to their ethnicity and religion. Did students of specific groups have doubts about equal treatment from the very start? These data were intended for comparison with actual experiences during the course of their studies.

The second aim was to acquire 'inside information' from students on their actual study experiences in relation to their ethnicity and religion. Did they perceive the diversity of their group as an asset or as a problem? And what would they recommend their educators? These qualitative data were intended for evaluation of education and to provide questions for quantitative research in the cohort as a whole.

We will present the results on two research questions:

- (1) What expectations do first-year students have of the influence of their culture and religion on their medical education?
- (2) What are the main positive or negative cross-cultural experiences of students in the curriculum, and in contacts between peers, during the first 18 months of their studies?

#### **Methods**

In December 2001, first-year medical students were asked to fill out an anonymous questionnaire on ethnicity, religion and expectations of their education (research question 1). In spring 2003, 17 students from the same group were interviewed extensively about their cross-cultural experiences (research question 2).

#### *Questionnaire*

In order to reach all first-years attending classes, students were approached during small-scale compulsory education. Of 308 students who had started in September 2001, one declined to participate and 30 did not turn up during several classes. These 30 students could not be retraced as the research was anonymous. Students were given an individual code, not linked to their faculty registration. Students who were willing to participate in a later interview wrote down their code and email address on a separate sheet, which was stored with an independent person.

Data were collected on students' age, gender, ethnicity, religion, mother tongue and self-reported command of Dutch and other languages. Ethnicity was defined according to the official Dutch classification, in which individuals with at least one parent born outside the Netherlands are considered to be immigrants. Those with both parents born in the Netherlands are considered as 'ethnic Dutch', regardless of their own country of birth. 'Western immigrants' originate from Europe (except Turkey), North America, Japan, Oceania, or Indonesia. 'Non-Western immigrants' originate from other countries (CBS, 2001). Respondents were asked about religion through a multiple-choice question on major religious denominations in the Netherlands and the options 'none' or 'other, namely ...' as alternatives. Students rated their oral command of languages on a 0–10 scale. The number of spoken languages per person was defined as the total number of languages with a rating  $\geq 6$ . Statements on expectations regarding the influence of culture and religion on medical education were rated on a 1–5 Likert scale (research question 1, Appendix 1).

#### *Interviews*

We approached the study group after about 18 months of studies, expecting that they would by then have had

enough experiences to report, and still have a clear memory of their first experiences. Criteria for selection were consent (given in 2001) and maximum variety in ethnicity and religion. Results of the questionnaire indicated that Western immigrants took up an intermediate position in many respects, so we focused on non-Western immigrants and ethnic Dutch. A message was sent to the email addresses provided in 2001, inviting students to contact us. We approached a total of 44 students in four rounds. Twenty-four students were not reached or did not respond. Two declined because they were too busy, one did not turn up for the interview and could not be reached afterwards.

Eight non-Western immigrants and nine ethnic Dutch were interviewed. Table 1 gives the main characteristics of participants.

The semi-structured interviews were tape-recorded and lasted 90–120 min. Major topics were cross-cultural experiences (both positive and negative) during education and between students. For each topic students were first invited to respond spontaneously; next, systematic open-ended questions were asked about subtopics: equal treatment and equal opportunities, education in cross-cultural medicine, training in physical examination, recommendations to faculty, cross-cultural contacts between peers, and added value of a mixed student population. The subtopics had previously been validated in interviews with third-year students.

The interviewer took notes and made a first report based on these. This was then re-edited in line with the tape-recordings. All responses were categorized first into broad categories (the pre-established subtopics) and then broken up into smaller categories. Responses of males and females,

immigrants and ethnic Dutch, and students with different religious backgrounds were compared for each subtopic.

The interviewees may constitute a selection of motivated students, either because of their preference for cross-cultural education or because of negative experiences. We accepted this possible bias, because the interviews were intended to disclose positive and negative experiences and opinions, as a basis for further quantitative research. We may have missed negative experiences because students may not have confided in us. However, the interviewees did not (in the 2001 questionnaire) differ significantly from the others in their views on the importance of a cross-cultural curriculum, impartiality of educators, and expectation of obstacles (statements 1–3, 8 and 10, see Appendix 1).

All students were interviewed by the first author, who is not a faculty member. Students answered very frankly, e.g. about family and personal life. After the interview some admitted that they had been reluctant to participate, but all had felt free to express themselves. As the number of interviews increased, less new information became available and the main issues and patterns of opinions became clear.

## Results

### *Description of the population*

In total 90% (277/308) of first-year students from various ethnic and religious backgrounds participated (see Table 1). Immigrants originated from 30 different countries: mostly Surinam (15 students), Indonesia (10), Turkey (8), Pakistan (5), Germany (3), and Morocco (3).

Two Western and 13 non-Western immigrants did not speak Dutch with their parents, but still rated their command of spoken Dutch as 8.9, on average, on a 0–10 scale. Immigrants spoke a total of 26 different languages (though not all their mother tongue), 10 of which were European (Sellegger *et al.*, 2003). Non-Western immigrants spoke significantly more languages than ethnic Dutch students (mean: 3.88 vs. 3.19, *t*-test, *p* < 0.005).

### *Research question 1: Expectations regarding cultural influences on education*

Table 2 shows the expectations regarding the influence of culture and religion on education for the main ethnic and religious groups (of first-year students). Non-Western immigrants expected more benefits because of their culture but also more obstacles than the ethnic Dutch. Muslims rated the contribution of their religion to professionalism higher than non-religious and Catholic students. Two religious groups, Protestant and Muslim, expected more obstacles than others because of their religion.

### *Research question 2: Cross-cultural experiences*

We interviewed first- and second-generation immigrants, children of both economic immigrants and political refugees. One student had some trouble expressing himself in Dutch; the others were fluent or almost fluent. Ethnic Dutch students originated from various places in the Netherlands, i.e. cities and rural areas. Parents' educational level ranked

**Table 1.** Characteristics of both samples.

Characteristic	Questionnaire sample ( <i>n</i> = 277)	Interview sample ( <i>n</i> = 17)
Gender		
Female/male ratio (%F)	175/102 (63%)	9/8 (53%)
Age (December 2001)		
Mean (range)	19.8 (17–41)	19.6 (18–22)
Ethnicity		
Ethnic Dutch	204 (74%)	9 (53%)
Western immigrant	23 (8%)	–
Non-Western immigrant	50 (18%)	8 (47%)
– first generation	21 (8%)	3 (18%)
– second generation	29 (10%)	5 (29%)
Religion		
None	133 (48%)	5 (29%)
Protestant	50 (18%)	3 (18%)
Catholic	41 (15%)	2 (12%)
Muslim	20 (7%)	5 (29%)
Hindu	9 (3%)	1 (6%)
Other	24 (9%)	1 (6%)
Mother tongue*		
Dutch	233 (84%)	9 (53%)
Dutch and other	29 (10%)	4 (24%)
Other	15 (5%)	4 (24%)

Note: \*Language(s) spoken with both parents.



**Table 2.** Students' expectations regarding influence of culture and religion on education by ethnic group and by religious group. Means per group on a 1–5 scale (1 = disagree...5 = agree).

Statement*	Ethnic Dutch (n = 204)	Western immigrants (n = 23)	Non-Western immigrants (n = 50)		
1. Cross-cultural education advantage	3.47	3.65	3.82		
2. Educators prefer 'Dutch' students	1.75	2.00	2.04		
3. Educators do their utmost	4.20 <sup>a</sup>	3.70 <sup>b</sup>	3.88		
4. Languages advantage education	2.99	3.30	3.12		
5. Languages contribute to professionalism	2.70 <sup>a</sup>	3.00	3.32 <sup>b</sup>		
6. My culture advantages education	2.92 <sup>a</sup>	3.26	3.50 <sup>c</sup>		
7. Culture contributes to professionalism	3.00 <sup>a</sup>	3.43	3.68 <sup>c</sup>		
8. Culture constitutes obstacles	1.31 <sup>a</sup>	1.91	2.10 <sup>c</sup>		
	None (n = 133)	Cath. (n = 41)	Prot. (n = 50)	Musl. (n = 20)	Other (n = 33)
9. Religion contributes to professionalism	2.98 <sup>a</sup>	2.80 <sup>a</sup>	3.44	3.90 <sup>b</sup>	2.91
10. Religion constitutes obstacles	1.47 <sup>a</sup>	1.44 <sup>a</sup>	2.26 <sup>c</sup>	2.55 <sup>b</sup>	1.85

Notes: \*Complete text of statements in Appendix 1. ANOVA, with multiple comparison: <sup>a-b</sup>different superscripts: difference significant at  $p \leq 0.05$ ; <sup>a-c</sup>different superscripts: difference significant at  $p \leq 0.005$ . Protestants and Muslims did not differ significantly on statement 10.

from illiterate to academic. There was a great variety in strictness of adherence within the various religions. In analysing the interviews we compared responses between immigrants and ethnic Dutch, males and females, and between students of different religions. As only minor differences were found, we will present the results of the study group as a whole and indicate differences when present.

As a first reaction on how educators dealt with cultural differences, the majority named two issues: training in physical examination in mixed gender groups and lack of attention in the pedagogical approach to student diversity, the latter being mostly valued positively: 'no attention, but there is respect ... quite alright this way'.

*Equal treatment and equal opportunities.* Three students reported personal experience of discrimination. A Muslim student was criticized by her teachers because she had obtained dispensation from being examined by male colleagues. A Protestant student was ignored by the teacher when she questioned evolution theory. A doctor in the canteen rebuked an immigrant student, who felt this was related to his ethnicity. Each student stated that this was a single, exceptional incident.

Several students felt that immigrants were disadvantaged in their studies because of their family background or their lack of practice in Dutch. A second-generation immigrant explained that her family did not read books, describing her struggle to fill this gap. While the vast majority felt that all students were presently treated equally, about half (including ethnic Dutch) had their doubts about equal opportunities for immigrants to enter a medical specialization in the future. Some minority students worried about their clerkships. A Protestant student worried about participating in procedures she did not ethically approve of. One was afraid patients might refuse contact because of her headscarf; another feared the same because of his ethnicity.

*Education in cross-cultural medicine.* Most students stated they had so far hardly received any education in cross-cultural medicine or patient diversity. When asked what they had been taught and when, four programmes were mentioned: one on professionalism and ethics (mentioned six times), one on practical clinical skills (four times), one on infectious diseases (three times) and one on first aid (once). Patient diversity was never a main theme. Three students could not name any formal education dealing with cross-cultural medicine. Some explained that the few things they had learned came from mutual contacts, but not from education. One immigrant stated he 'studied medicine, not anthropology'; two ethnic Dutch disagreed with the rest, considering cross-cultural education 'essentially enough'.

*Training physical examination.* Many students spontaneously mentioned the introductory lecture in which the obligation to practise in mixed-gender groups was explained. They mostly considered this strict but fair.

Students described training in parts of the examination (head, neck, chest, abdomen and limbs) in groups of two or three, everyone performing and undergoing the examination. Many students stated that in their group the majority neither trained in mixed-gender groups, nor were specifically encouraged to do so. In some instances, however, teachers did encourage mixed examination, taking it step by step, also convincing female Muslim students with headscarves to overcome their hesitations. Several students, in this context, mentioned headscarves as a sign of strict adherence implying reluctance to undress in front of male peers.

All students agreed they should practise on colleagues of both genders before examining a first patient. Two students emphasized that being examined should be compulsory for everyone. Most students expressed that mixed peer training was important but that serious objections should be respected. One student emphasized that

respecting students' objections was essential for a multi-cultural medical school.

Female Muslim student:

I think the rules are presently applied too strictly....Yes [one should allow for dispensation] but only after consultation. You shouldn't generalize all Muslims.... Personally I *did* practise on boys.

Male Muslim student:

You can never make it compulsory, but it is definitely allowed in Islam. Girls who I know *do* realize this.

Male immigrant student:

If you refuse to be examined you are questioning the other person's professionalism.

*Recommendations to faculty.* The majority of students requested more and/or better education in cross-cultural medicine and patient diversity. Many suggestions were made, like "a course of a whole week on immigrant patients just before clerkships", more education "on patients' social background", "on minorities of both foreign and Dutch origin", "training in sensitivity to religion and culture" and "more attention to the image of immigrants presented in education". Several immigrants recommended remedial teaching or special regulations for immigrants, e.g. more examination time for the recently immigrated, and help with language problems. Suggestions for the training of physical examination went in different directions: "stimulate mixed training" and "more transparency", but also "don't be so strict". A few students requested more personal coaching, and many mentioned the lack of personal contact as a problem.

*Cross-cultural contacts.* In a first spontaneous reaction to the ethnic diversity of their peer group, many immigrants reported being surprised and relieved, and several ethnic Dutch considered it normal or got used to it. Students agreed that ethnic Dutch and immigrants did not socialize as much as they could. Some students, both immigrant and ethnic Dutch, pointed at 'the other group' for sticking together or not being accessible. Others explained that although there were groups along lines of ethnicity, they did not feel excluded. The vast majority of immigrants interviewed had one or more ethnic Dutch study friends, while most ethnic Dutch did not have any immigrant study friends.

*Added value of mixed student population.* Two ethnic Dutch students said they had definitely learned from the others: "respect and better insight into my own views" and "less fear of foreigners". The majority of students, however, found that they learned little from one another. Several wanted more contact between ethnic groups in order to learn more. Nevertheless, a majority found that studying in a mixed peer group added value to their studies, and considered it important to have mixed small-scale study groups.

Immigrant: It is more fun like this, but if the ethnic Dutch do not learn from the immigrants we are missing out on an opportunity.

Ethnic Dutch: It is definitely important in Rotterdam.

## Discussion

With 8% Western and 18% non-Western immigrants the Rotterdam first-year students highly out-rated the national average percentage of immigrant medical students. The diversity of students in Rotterdam possibly reflects the diversity of the population in the region. With many different countries of origin and languages spoken, and a wide range of religions, the population of one cohort was extremely diverse. In theory, this diversity could offer many opportunities for cross-cultural education and communication between students.

First-year students mostly considered cross-cultural education an advantage for their personal education. Students from minorities expected more benefits and more obstacles because of their ethnicity or religion than others. How did this work out in the following year? In the interviews with both immigrant and ethnic Dutch students three issues predominated: training in physical examination, lack of attention paid to student diversity, and demand for education in cross-cultural medicine.

It did not come as a surprise that the *training in physical examination* was an important issue. In the 1980s all Dutch medical schools, in the process of revaluing manual skills, developed systematic training programmes for examination skills with students practising on one another. One medical school even offered the option to practise the examination of the female and male genital tract on peers (Van Lunsen, 1986). Students, who were at that time predominantly ethnic Dutch, rarely protested. Many years later, when female Muslim students (mostly of Turkish or Moroccan descent) started to enter medical school, the debate on mixed training was opened. Erasmus MC was the first to formulate rules on mixed training, with religion as such not being reason enough for dispensation (text available on request). The 2001 cohort was the first to be introduced to the new rules. Surprisingly no real conflicts were mentioned in the interviews and students differed less in opinion than one might conceive from their first reactions. All agreed that they should examine male and female peers, which goes far beyond the accepted limits in many countries of origin of immigrant students. Some teachers seemed reluctant to apply the official rules. The issue exemplifies the conflict between two principles: respect for cultural or religious values of the individual on the one hand and responsibility for general standards in medical education on the other.

The issue of *lack of attention to student diversity* illustrates a similar dilemma: equal treatment of all students versus specific attention to disadvantaged students. Most students interviewed valued the impartiality of educators, although some expressed drawbacks: little consideration for language problems, absence of remedial teaching, and lack of personal contact. Other countries that value the training of doctors from ethnic minorities have preparatory courses for widening access or programmes for academic support during medical school (Holmes, 2002; Sayer *et al.*, 2002), but this is not so in the Netherlands.

The *demand for education in cross-cultural medicine* is worrying because the Rotterdam curriculum as a whole hardly includes any formal education on the subject; but this demand is at the same time reassuring, as it shows that most students are convinced of its relevance. One might hope that

students learn from cross-cultural contacts with peers but our results do not support this view. Although students mostly valued their mixed student community, they did not seem to learn much from one another. This missed opportunity may partly be explained by lack of contact. The tendency of some students to blame the others for this lack of contact is in line with research by Shelton & Richeson (2005). They found that 'in-group' members do not expect 'out-group' members to desire contact. They stress the importance of individual intergroup friendships in order to bridge this gap. It does not come as a surprise that the immigrants interviewed had more mixed contacts than the ethnic Dutch as the latter group is so much larger. Perhaps medical schools should focus on the ethnic Dutch who are missing out on an opportunity.

The students did not consider the *incidents of discrimination* as part of a systematic pattern. We talked to only a small number of selected students, so our findings may be biased or are perhaps the tip of the iceberg. Further research on discrimination is now being carried out in this cohort.

The *worries of students* about their clerkships and future careers should be taken seriously and followed up over the years to come.

## Conclusions

The diversity of our Rotterdam cohort has so far not caused serious problems, nor has it offered many advantages. We feel that teachers and students of different cultures should get more involved and take the risk of disagreeing on certain points if they really want to learn from one another. We opt for an educational approach that invites all students to reflect on their personal background, values, taboos and preconceptions. Only if students really know their own standpoint and biases can they learn to cross borders in communication. As a consequence of our research special attention is now directed to discrepancies between rules and practice in training in physical examination. Research is being carried out on students' and teachers' experiences in this field. Further research may show whether students of different backgrounds become more involved at later stages, and whether the worries of minority students about their clerkships and future careers are justified. The main question for the future is whether students will be well enough prepared to care for *all* patients, regardless of their cultural background.

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# Appendix 1: Statements on influences of culture and religion on education

## Translated Dutch text

To be rated on a 1–5 scale: 1 = disagree . . . 5 = agree

- (1) I consider a cross-culturally oriented medical education an advantage for my personal education.

- (2) I believe that the Rotterdam medical educators prefer to teach ethnic Dutch students.
- (3) I believe that the Rotterdam medical educators do their utmost to teach all students, whatever their background, culture, or colour of skin, to become good doctors.
- (4) I consider my command of languages an advantage for a successful medical education.
- (5) I believe that my command of languages will contribute to my medical professionalism.
- (6) I consider my cultural background an advantage for a successful medical education.
- (7) I believe that my cultural background will contribute to my medical professionalism.
- (8) I expect that my cultural background will constitute obstacles during my medical education.
- (9) I believe that my religion will contribute to my medical professionalism.
- (10) I expect that my religion will constitute obstacles during my medical education.