



# European students planning to practice internal medicine are more likely to have condition-focused, rather than behaviour-focused approach to HIV testing - data from the English Division Faculty, Medical University of Warsaw

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## 1 Introduction

- Despite great efforts to optimise HIV testing, there is still a considerable amount of undiagnosed seropositive patients in Europe.
- This can reflect inappropriate knowledge of testing indications by physicians.
- The way students reason about HIV infection and how to handle it has not yet been sufficiently investigated.



## 3 Results

- 224 students completed the questionnaire (see Table 1):
  - 144 (64.3%) from Europe.
  - 55 (24.5%) from Asia.
  - 14 (6.3%) from North Africa.
  - 11 (4.9%) from North America.
  - 163 (72.8%) from high-income countries.
  - Mean age was 24.1 (SD=2.1).
- Median score for the questionnaire was 14 points (IQR: 12-15) out of a maximum of 18.
- Only 91 (41%) correctly listed indications for HIV testing (STD or unprotected sexual contact and pregnancy in addition to immunodeficiency related conditions), and thus formed group 1.
  - 121 (54%) listed only medical conditions.
  - Eleven students (5%) provided no valid answer.
  - Only 27 students (12%) listed pregnancy and 87 (39%) STD or unprotected sexual contact as indication for testing.
- Risk was mainly overestimated by students (25% of students did so for MTC risk, 54% for men who have sex with men (MSM) sexual contact and 45% for heterosexual contact).
- After multivariate logistic regression analysis (see Figure 2), factors that modified the odds of testing indications were:
  - Increasing odds of wrong testing indication: a 5% increase in estimation of MTC transmission risk (OR1.16[95%CI:1.07-1.25];p< 0.001), being from Europe (2.36 [0.97-5.76];0.001). There was a trend of increasing odds for students who were planning on practicing internal medicine (3.33 [1.09-10.2];p=0.18).
  - Decreasing odds of wrong testing indication: a correct answer to question about HIV being an asymptomatic infection (0.07 [0.01-0.69];p=0.023) and a 5% increase in estimation of MSM transmission risk (0.90 [0.84-0.96];p=0.001).

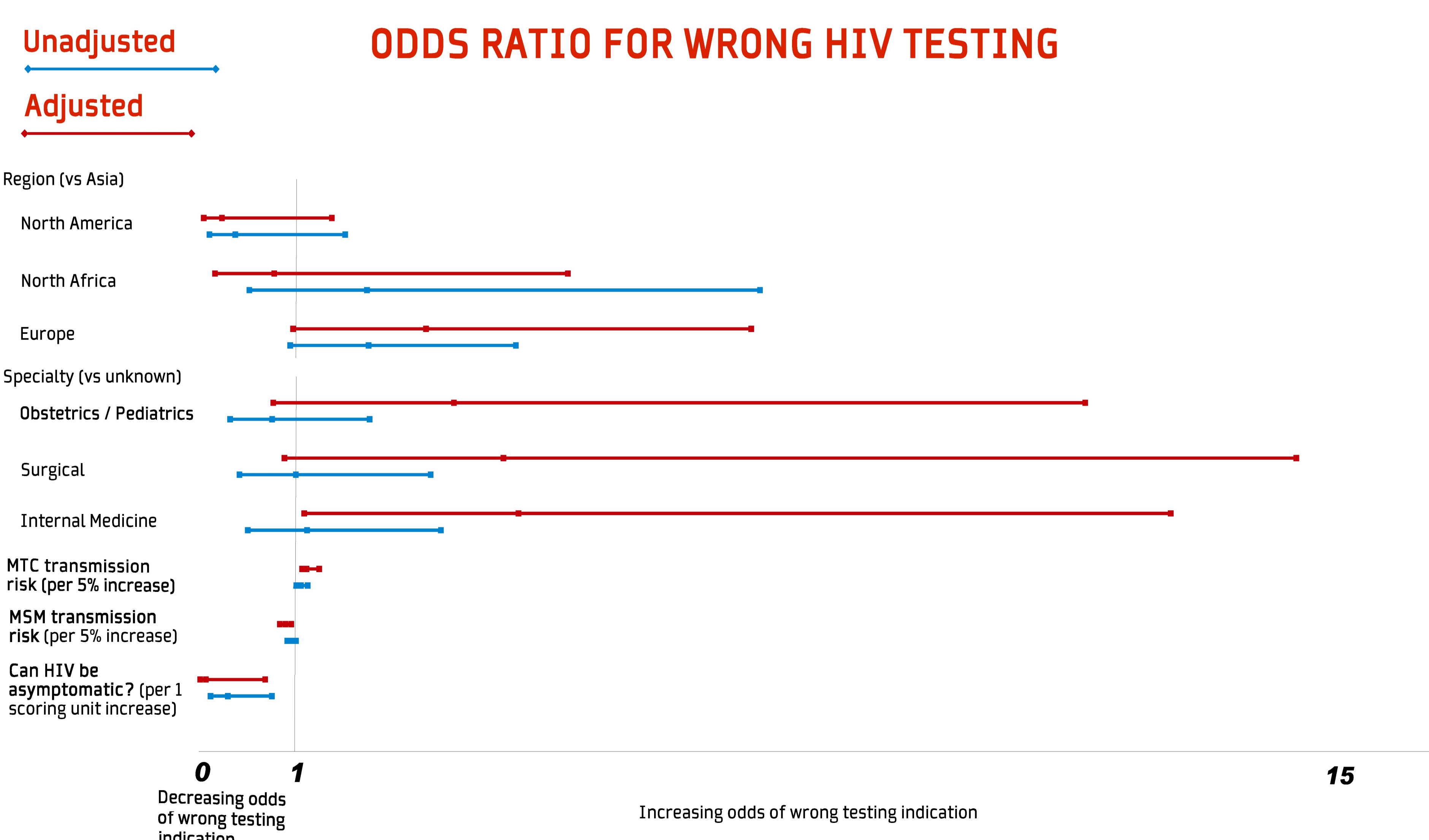


Figure 2. Odds ratios for wrong answer about HIV testing.

## 2 Material and methods

- **Data source:** fifth year students from the Second Faculty and English Division of the Medical University of Warsaw were asked to fill-in a pre-course questionnaire before entering HIV lessons.
- **Questionnaire design and evaluation:** students were asked the following questions.
  - A: Difference between HIV and AIDS.
  - B: Can HIV be asymptomatic?
  - C: AIDS defining conditions.
  - D: Which bodily fluids are contagious?
  - E: Risk of mother-to-child (MTC) transmission.
  - F: Risk of sexual transmission.
  - G: Indications for HIV testing.

Questionnaire was evaluated according to pre-defined scoring system.

- **Study end-point:** Participants were divided in two groups according to their answer to the question about testing. Group 1 included students who answered correctly. Group 0 included the rest.

- **Statistical analyses:** Parametric and non-parametric tests were used for group comparison as appropriate. Logistic regression was used to identify factors associated with a correct answer to the question on HIV testing.

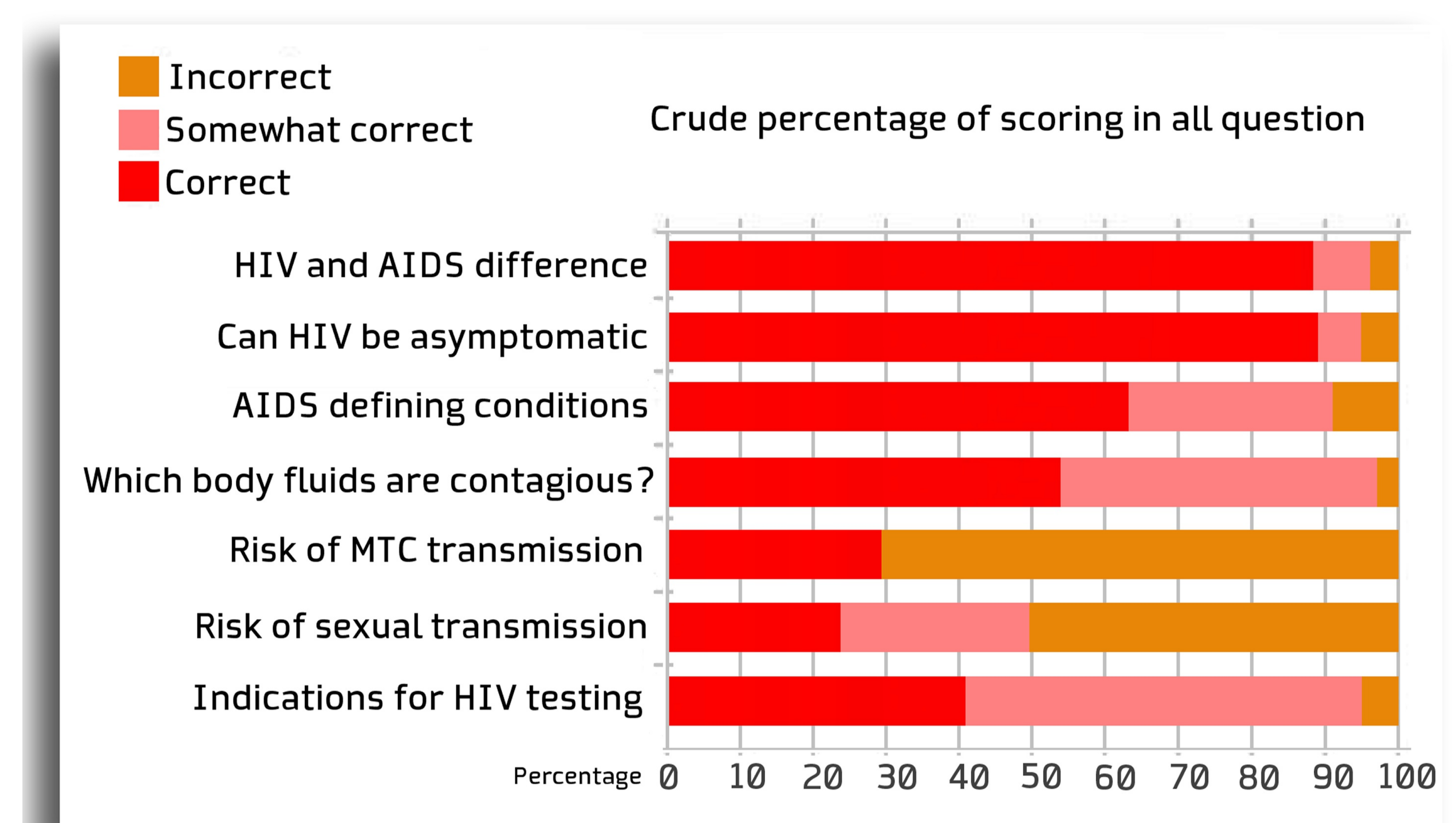


Figure 1. Crude percentage of scoring in all questions.

Characteristic	Group 1 (right testing) N=133	Group 0 (wrong testing) N=91	P value
Age (mean, SD)	24.3 (2.3)	23.9 (1.9)	0.33
Female gender (N,%)	60 (65.9)	83 (62.4)	0.67
Region			
North America	8 (8.8)	3 (2.3)	0.04
North Africa	5 (5.5)	9 (6.8)	
Asia	27 (29.7)	28 (21.0)	
Europe	51 (56.0)	93 (69.9)	
Income			
High	62 (68.1)	101 (75.9)	0.20
Middle	29 (31.9)	32 (24.1)	
Specialty			
Surgically related	20 (22.0)	30 (22.6)	0.71
General medicine related	32 (35.2)	54 (40.6)	
Obstetrics and pediatrics	25 (27.5)	28 (21.0)	
Unknown	14 (15.4)	21 (15.8)	
<b>Medical aspects</b>			
A			
Incorrect	4 (4.4)	5 (3.8)	0.13
Somewhat correct	3 (3.3)	14 (10.5)	
Correct	84 (92.3)	114 (85.7)	
B			
Incorrect	8 (8.8)	12 (9.0)	0.76
Somewhat correct	28 (30.8)	35 (26.3)	
Correct	55 (60.4)	86 (64.7)	
C			
Incorrect	0 (0.0)	11 (8.3)	0.013
Somewhat correct	4 (4.4)	9 (6.7)	
Correct	87 (95.6)	113 (85.0)	
<b>Risk assessment</b>			
D			
Incorrect	3 (3.3)	4 (3.0)	0.97
Somewhat correct	40 (44.0)	57 (42.9)	
Correct	48 (52.7)	72 (54.1)	
E			
Incorrect	44 (48.3)	68 (51.1)	0.52
Somewhat correct	17 (18.7)	30 (22.6)	
Correct	30 (33.0)	35 (26.3)	
F			
Incorrect	47 (51.6)	66 (49.6)	0.89
Somewhat correct	22 (24.2)	36 (27.1)	
Correct	22 (24.2)	31 (23.3)	
<b>Testing</b>			
G			
Incorrect	0 (0)	12 (9.0)	<0.0001
Somewhat correct	0 (0)	121 (91.0)	
Correct	91 (100)	0 (0)	
Testing in pregnancy	26 (28.6)	1 (0.7)	<0.0001
Testing in STDs	83 (91.2)	5 (3.8)	<0.0001
Discordant MTC	16 (17.6)	46 (34.6)	0.006
Discordant STDs	2 (2.2)	43 (32.3)	<0.0001
Estimated MTC risk median (IQR)	30 (20-50)	35 (30-60)	0.003
Estimated MSM risk median (IQR)	20 (3-60)	10 (1-40)	0.11
Estimated Htx risk median (IQR)	5 (0.9-60)	2 (0.4-30)	0.24
Final score Mean (SD)	14.3 (1.8)	12.9 (2.3)	<0.0001

Table 1. Baseline characteristics.

## 4 Conclusions

- Students generally recommend testing only from a condition-focused approach, mainly ignoring the importance of behaviour related indications for testing (specially for those who come from Europe and plan to practice internal medicine). This calls for a change in the way we transmit knowledge about HIV infection.
- Students focus on HIV-related medical conditions even though they know about the asymptomatic nature of HIV infection.
- Students tend to overestimate the risk of HIV transmission in all situations.