

Dr. Dessein, et al reply

To the Editor:

We thank Drs. Ravindran and Hughes for their encouraging comments on our study in which we identified determinants of dyslipidemia in public and private healthcare patients with established rheumatoid arthritis (RA)¹. Ravindran and Hughes further estimated the proportion of patients with RA that should receive preventive treatment for cardiovascular disease (CVD) according to the Joint British Societies (JBS) guidelines². As recommended³, they further adjusted for the presence of RA inflammation by doubling the multifactorial 10-year risk score as estimated using the modified JBS2 CVD risk calculator². Of the 65 patients investigated, 57% had JBS-defined cardiovascular comorbidities indicative of a necessity for CVD prevention². Upon multifactorial 10-year risk evaluation² in the remaining patients, this proportion of patients increased to 63% and upon further adjustment for the presence of RA inflammation³, it increased to 72%. Thus, about 3 in 4 of their patients with RA needed cardiovascular risk management.

The bulk of the cardiovascular disease burden is now found in populations living in low- and middle-income countries⁴. Socioeconomic deprivation enhances RA severity^{5,6} but whether it alters the need for CVD prevention in RA is unknown. Together with the findings of Ravindran and Hughes this prompted us to estimate the potential effects of public healthcare attendance as a marker of socioeconomic disadvantage on the need for lifestyle intervention and/or the use of cardiovascular drugs according to the JBS guidelines, and with adjustment for the presence of RA inflammation^{2,3}.

The baseline characteristics in our patients were reported previously¹. We studied 424 public and 202 private healthcare patients. Their mean (SD) age and disease duration were 55.9 (11.6) and 9.2 (2.4) years, respectively, and 84.5% were women. Table 1 shows the JBS-defined cardiovascular comorbidities² that were present. Public healthcare attendance was associated with a heightened prevalence of JBS-defined hypertension (OR 2.01, 95% CI 1.43–2.84) and JBS-defined dyslipidemia (OR 3.40, 95% CI 1.42–8.18). Sixty-two percent of public and 42% of private healthcare patients had 1 or more JBS-defined cardiovascular comorbidities (OR 2.27, 95% CI 1.61–3.20). In the remaining patients, the absolute multifactorial 10-year CVD risk was estimated using the modified JBS2 CVD risk calculator². The mean (SD) 10-year risk was 5.5 (5.4) in public care and 5.4 (5.1) in private care patients (p = 0.7 by Student t test). Table 2 shows that this procedure identified another 3 patients who qualified for CVD prevention (10-year risk > 20%) in each healthcare sector. Upon further adjustment for RA inflammation³, these numbers increased to 18 in public and 19 in private healthcare. When we added these patients to those with 1 or more JBS-defined cardiovascular comorbidities, 66.8% in public and 52.2% in private healthcare needed CVD risk management (OR 1.87, 95% CI 1.33–2.64).

Our proportions of patients who required CVD risk management were

Table 2. Absolute multifactorial 10-year cardiovascular risk before and after adjustment for the presence of RA in public and private care patients without cardiovascular comorbidities. The 10-year risk for cardiovascular disease was calculated using the Joint British Societies (2) cardiovascular disease risk calculator with adjustment for South Asian ethnicity². Adjustment for the presence of RA done by doubling the 10-year risk score³.

CVD Risk	Private, n (%), n = 117	Public, n (%), n = 162	OR (95% CI)
Unadjusted			
< 10%	97 (82.9)	140 (86.3)	1.25 (0.65–2.37)
10–20%	17 (14.5)	19 (11.8)	0.79 (0.39–1.60)
> 20–30%	2 (1.9)	2 (3)	0.73 (0.10–5.27)
> 30%	1 (0.9)	1 (0.6)	0.73 (0.04–11.89)
Adjusted			
< 10%	66 (56.4)	93 (57.5)	1.04 (0.64–1.67)
10–20%	32 (27.4)	51 (31.3)	1.20 (0.71–2.03)
> 20–30%	13 (11.1)	10 (6.2)	0.53 (0.22–1.26)
> 30%	6 (5.1)	8 (5.0)	0.97 (0.33–2.89)

somewhat lower than those reported by Ravindran and Hughes, presumably at least in part because our patients were on average 7 years younger. The JBS guidelines aim at preventing fatal and nonfatal coronary heart disease and stroke. They are based on information mainly obtained in Caucasians². Forty-six percent of our patients were black and 7% were of mixed ancestry. It is, however, unlikely that the application of the JBS guidelines in our healthcare setting results in overestimating the need for CVD risk management. Although reported information on CVD in black Africans and in those of mixed ancestry is limited, ischemic heart disease is reportedly less prevalent in these populations, but they experience a higher prevalence of stroke relative to their European counterparts⁷. Further, the INTERHEART investigators recently documented that the association between cardiovascular risk factors and ischemic heart disease is consistent worldwide including in Africa^{4,7}. Moreover, the association between hypertension and acute myocardial infarction is even stronger in black Africans than in other populations⁷.

Our findings confirm that over 50% of patients with RA need CVD prevention. We further show for the first time that socioeconomic disadvantage in patients with RA markedly augments the requirement for systematic CV risk management.

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Table 1. Joint British Societies-defined cardiovascular comorbidities in private and public care patients with rheumatoid arthritis. Patients are classified as hypertensive when blood pressure is ≥ 160 mm Hg systolic or ≥ 100 mm Hg diastolic. Patients are classified as dyslipidemic when cholesterol/high-density lipoprotein cholesterol ratio is ≥ 6².

Cardiovascular Comorbidities	Private, %, n = 202	Public, %, n = 424	OR (95% CI)
Established cardiovascular disease	5.4	3.3	0.59 (0.26–1.33)
Diabetes	6.4	11.5	1.86 (0.98–3.51)
Hypertension	36.6	53.8	2.01 (1.43–2.84)*
Dyslipidemia	3.0	9.6	3.40 (1.42–8.18)*
Any	42.0	61.8	2.27 (1.61–3.20)*

* Significant associations of public healthcare attendance with cardiovascular comorbidities.

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