

women do so. So, in this sense, this percentage of women would not be included in the acceptance rate that Braillon mentions. Another thing to consider is that the eligible population of the French programme are all women aged 50–74 years, while we considered only women aged 50–69 years, where mammography use tends to be higher.⁵ These issues are not likely to explain all the difference but may be part of it.

Although our study had a cross-sectional design, we used a recall period of 3 years. The 3-year gap of time, which was in fact included in the current recommended screening interval,⁶ was chosen given the question asked in the survey. Thus, our prevalence estimates are higher than those calculated with the programme's invitation frequency, which usually is of 2 years. However, we would argue that this is not likely to affect different types of programmes (organized and opportunistic) in a different manner, so the effect of organized screening would not be strongly affected.

The main objective of our study was not to give precise estimates of the prevalence of screening in Europe—as we think there are better tools to do it—but whether the presence of an organized programme influences the prevalence of screening and the magnitude of socio-economic inequalities. We really agree on the need for an observatory that provides valid and comparable data on the state of cancer in Europe; however, studies that use survey data to compare socio-economic inequalities in countries with

different types of screening approaches can be useful to understand the benefits of organized screening.

References

- 1 Braillon A. Letter to the editor: Cancer screening: inequalities...in the data. *Int J Epidemiol* 2011;**40**:837.
- 2 Palència L, Espelt A, Rodríguez-Sanz M *et al*. Socio-economic inequalities in breast and cervical cancer screening practices in Europe: influence of the type of screening program. *Int J Epidemiol* 2010;**39**:757–65.
- 3 WHO World Health Survey. <http://www.who.int/healthinfo/survey/en> (17 September 2010, date last accessed).
- 4 Communiqué de presse. Dépistage organisé du cancer du sein: légère progression de la participation entre 2008 et 2009. *Institut de Veille Sanitaire* 2010. http://www.invs.sante.fr/presse/2010/communiques/depistage_cancer_sein_060410/index.html (17 September 2010, date last accessed).
- 5 Duport N, Ancelle-Park R. Do socio-demographic factors influence mammography use of French women? Analysis of a French cross-sectional survey. *Eur J Cancer Prev* 2006;**15**:219–24.
- 6 Recommendations on cancer screening in the European union. Advisory Committee on Cancer Prevention. *Eur J Cancer* 2000;**36**:1473–8.

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Watching football matches and the risk of acute myocardial infarction

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We read with interest the paper by Barone-Adesi *et al.*¹ on the lack of association between football and the risk of acute cardiovascular events. We used the same methodology to compute the risks for Portugal, a country that participated in several football competitions and which was finalist of the Euro 2004. Hospital discharge data for the period 1993–2005 were obtained from the National Health Institute Dr Ricardo Jorge, in Lisbon, Portugal, and only adult (≥ 18 years of age) patients were considered. Acute myocardial infarction (AMI) was defined by ICD-9 code 410 as described. No differences regarding the number of AMI events per day were found between days where the Portuguese national team played and days where other

teams played (data not shown). Similarly, Poisson regression showed no increased risk of AMI on the days when the Portuguese national team played (Table 1), with the exception of the World Cup 2002, where there was weak evidence for an association: relative risk (RR) and [95% confidence interval (CI)] 1.27 (1.00–1.61). Analyses for men and women showed similar findings. Also, no increase in the number of events or in the risk of AMI was found when the Portuguese team played the Euro 2004 final against Greece, relative to the other days when Portugal played: RR and (95% CI) 0.73 (0.49–1.09). We thus confirm that watching football matches does not increase the risk of AMI, at least in Portugal.

Table 1 Hospital admissions for AMI (ICD-9: 410) in the Portuguese population during four international football competitions

	When Portugal played		When Portugal did not play	
	Number of events (number of days)	RR (95% CI)	Number of events (number of days)	RR ^a
Euro 1996	70 (4)	0.87 (0.56–1.35)	186 (10)	1 (ref.)
Euro 2000	107 (5)	1.09 (0.78–1.53)	272 (12)	1 (ref.)
World Cup 2002	110 (3)	1.27 (1.00–1.61)	633 (21)	1 (ref.)
Euro 2004	219 (6)	1.11 (0.91–1.34)	423 (13)	1 (ref.)
Overall	506 (18)	1.02 (0.92–1.13)	1514 (56)	1 (ref.)

The RR of AMI on match days involving the Portuguese team is compared with the other days of the competition.

^aAdjusted for day of the week.

Conflict of interest: None declared.

football matches and the risk of acute cardiovascular events. *Int J Epidemiol* 2010;**39**:1006–13.

Reference

¹ Barone-Adesi F, Vizzini L, Merletti F, Richiardi L. It is just a game: lack of association between watching

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Spurious association between telomere length reduction over time and baseline telomere length

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Ehrlenbach *et al.*¹ found a linear relationship between baseline relative telomere length (RTL) and the decrease of RTL over 10 years ($r=0.674$; $P<0.001$). Similarly, others have reported on this relationship between the telomere attrition rate and the baseline telomere length and found largely similar associations.^{2,3} Likewise, when we correlated the RTL and delta RTL during 7 years of follow-up in 75 men from the Zutphen Elderly Study⁴ with an age range of 70–91 years, we found a largely identical association ($r=0.733$; $P<0.001$; EJ Giltay *et al.*, unpublished results).

We question whether this association is trivial. We used a random number generator to produce 510 baseline RTL values, similar to the number of pairs in the study of Ehrlenbach *et al.*¹ A mean of 1.49 was aimed at for baseline values and 1.05 at 10-year follow-up, with distributions comparable to those presented in Table 1.¹ Using these random numbers, we found a beta coefficient that was nearly similar to the beta coefficient that was presented in Table 2 (0.557

as compared with 0.589, respectively). Because baseline RTL (X) was used to calculate the RTL shortening rate ($X-Y$), the ‘dependent’ and ‘independent’ variables were functionally related.⁵ Pearson’s correlation coefficients using randomly generated factors can be estimated to be around $1/\sqrt{2}$, if baseline and outcome have equal variances.⁵ Therefore, it was to be expected that a linear regression model would best fit the data (as X was regressed on $X-Y$) and that an exceptional P -value of 2.3×10^{-90} was found (Table 2).¹ We think that the slope of the regression line should have been tested against the slope of a no-effect line, instead of zero (i.e. a horizontal line).

We think, therefore, that the reported association is explained neither by older cells having lower division rates nor by telomerase that acts preferentially on short telomeres as a special protection mechanism, as was suggested as potential explanations,^{1,2} but is merely a consequence of mathematical coupling. It seems more likely that the attrition rate of RTL is biologically independent of baseline RTL.