

# Factors associated with cycling accidents in the elderly population

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## BACKGROUND AND AIM

In the Netherlands, cycling is an important means of transportation for all age groups. Elderly cyclists, however, have a high risk of being involved in falling with their bicycle and sustaining an injury (see figure 1). The aim of this present study was exploring which self-reported personal factors are associated with cycling accidents, to gain insight in the elderly cyclist and his limitations.

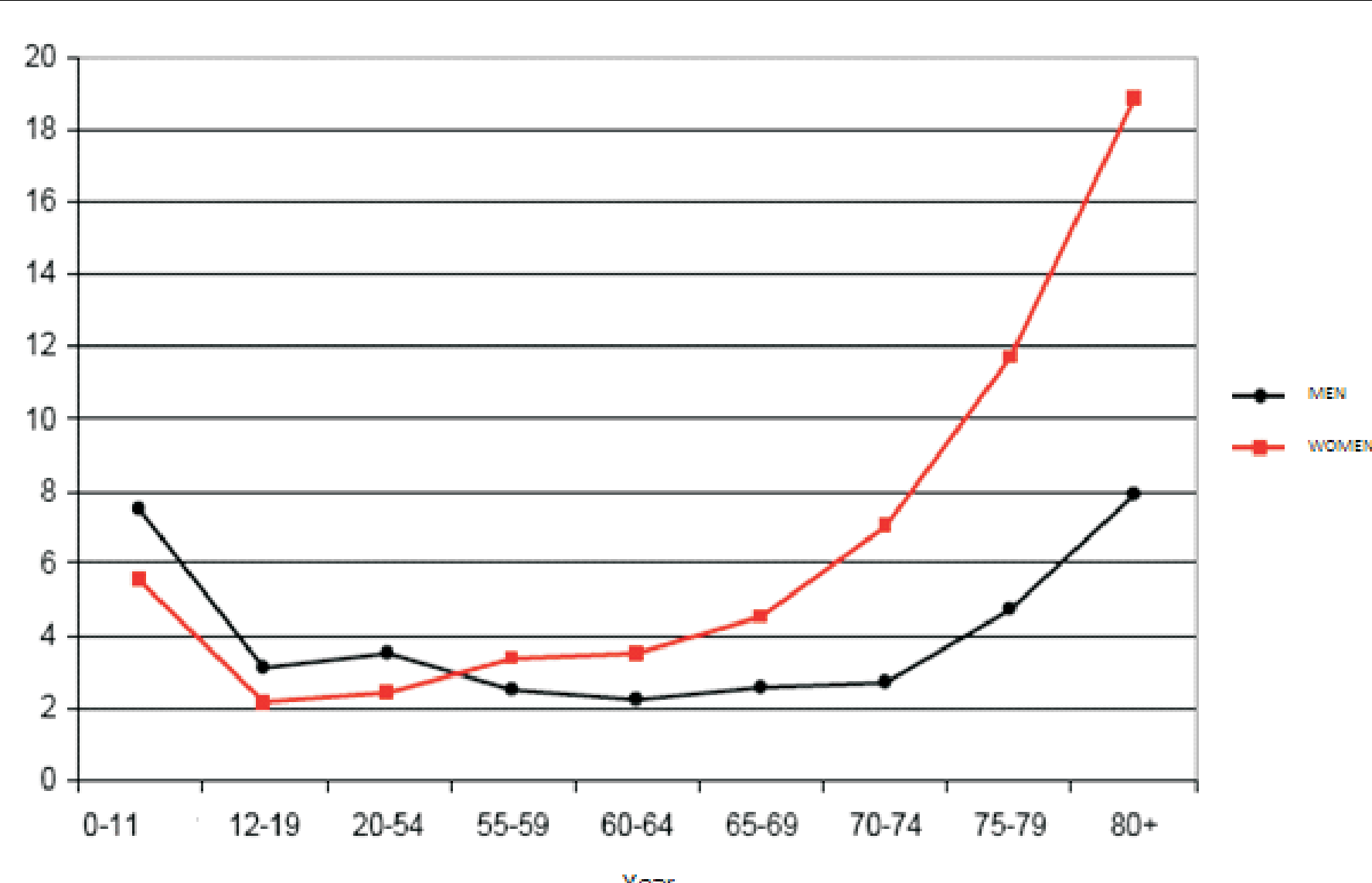


Figure 1: Yearly amount of emergency treatments per million cycling kilometers in each age category (CBS 2003-2007) [Consument & Veiligheid, 2010]

Variables	N	mOR	95% CI	P
<b>Age (M=72.12, SD=5.34)</b>	791	1.073	1.042-1.106	<0.001
<b>Mental impairments</b>	791			
No-	507			
Yes	284	2.510	1.788-3.524	<0.001
<b>Confidence in cycling</b>	791			
Yes, completely-	488			
No, less than completely	303	1.804	1.293-2.518	0.001
<b>Living environment</b>	791			
Rural	601	2.062	1.440-2.953	<0.001
Urban-	190			

Table 1: Multivariate logistic regression model

## METHOD

Elderly cyclists (N=791) aged 64 years and older (52,4% female, 47,6% male) completed a questionnaire about demographics, mental and physical impairments and cycling habits and experiences. First a subset of independent factors, that were univariate associated with self-reported falling (n=379) were identified (adaption of cycling behavior, physical impairments, health, bicycle model, bicycle adaptations, activity type & cycling frequency. Second, stepwise forward logistic regression analysis was used in order to make a multivariate model.

## RESULTS AND CONCLUSION

The regression analysis showed four important findings (table 1):

- Every year the cyclist becomes 1 year older (after 65 years old) the chance to fall increases with 7.3%.
- If a cyclist has mental impairments, the chance to fall increases with 2.5.
- If a cyclist is less than completely confident the chances to fall increases with 1.8.
- If a cyclist lives in a rural environment the chance to fall increases with 2.06.



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