



Bicycle accidents:

A new trend for Hospital Admissions?

Ricardo Mexia¹(ricardo.mexia@insa.min-saude.pt), Emanuel Rodrigues¹

¹Epidemiology Department, National Health Institute Doutor Ricardo Jorge ([INSA](http://insa.gov.pt)), Lisboa, Portugal

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Background

Bicycle riding is an increasing trend in Portugal:

- Improving cycling conditions in Portuguese cities
- Affordable transportation (avoiding rising fuel costs)
- Growing outdoor sports, such as mountain biking

National Agency for Road Safety (www.ansr.pt) data shows accidents involving bicycles are also increasing :

- 2003: 1405 accidents leading to 1370 victims
- 2013: 1762 accidents leading to 1708 victims



Photo: Andy Armstrong, 2010

Methods

Data from Portuguese National Hospital Registry:

- All hospitals in Portugal
- All admissions
- Coded into
 - ICD9-CM
 - DRG Diagnosis-Related Groups (“GDH”)

Data comparison:

- between 2003 and 2013
- from all Portuguese hospitals
- with ICD9-CM code: E826 (Pedal Cycle Accident)

Results

Between 2003 and 2013:

- 7170 victims involved in bicycle accidents
 - ↳ 651,8 yearly average
- 85,7% male
- 11% increase (652 to 725 victims)



Figure 1 – Bicycle accident victims by year, Portugal, 2003-2013

Table 1 – Bicycle accident victims by year and sex, external causes and all cause hospital admissions, Portugal, 2003-2013

| Year | Bicycle accident victims | | | | | All external causes | | All admissions | |
|--------------|--------------------------|--------------|--------------|--------------|--------------|---------------------|--------------|-------------------|---------------|
| | Total | Male | | Female | | n | % | n | % |
| | | n | % | n | % | | | | |
| 2003 | 652 | 546 | 83,7% | 106 | 16,3% | 115 364 | 0,57% | 1 061 262 | 0,061% |
| 2004 | 607 | 522 | 86,0% | 85 | 14,0% | 112 684 | 0,54% | 1 066 813 | 0,057% |
| 2005 | 617 | 512 | 83,0% | 105 | 17,0% | 108 487 | 0,57% | 1 056 859 | 0,058% |
| 2006 | 706 | 587 | 83,1% | 119 | 16,9% | 110 567 | 0,64% | 1 094 855 | 0,064% |
| 2007 | 661 | 576 | 87,1% | 85 | 12,9% | 106 845 | 0,62% | 1 723 918 | 0,038% |
| 2008 | 637 | 538 | 84,5% | 99 | 15,5% | 111 059 | 0,57% | 1 888 602 | 0,034% |
| 2009 | 623 | 535 | 85,9% | 88 | 14,1% | 114 015 | 0,55% | 1 976 929 | 0,032% |
| 2010 | 561 | 494 | 88,1% | 67 | 11,9% | 117 699 | 0,48% | 2 021 333 | 0,028% |
| 2011 | 677 | 598 | 88,3% | 79 | 11,7% | 121 000 | 0,56% | 2 024 043 | 0,033% |
| 2012 | 704 | 604 | 85,8% | 100 | 14,2% | 162 378 | 0,43% | 1 949 869 | 0,036% |
| 2013 | 725 | 631 | 87,0% | 94 | 13,0% | 1 72473 | 0,42% | 1 683698 | 0,043% |
| Total | 7 170 | 6 143 | 85,7% | 1 027 | 14,3% | 1 352 571 | 0,53% | 17 548 181 | 0,041% |

Accidents involving bicycles are decreasing in proportion of external causes and all cause admissions:

- 2003: 0,061% of all admissions and 0,57% of external causes
- 2013: 0,043% of all admissions and 0,42% of external causes

Conclusions

Limitations include:

- Only more severe cases registered (many accidents do not require Hospital care/admission)
- No description on causes for the accident

11% increase in total admissions connected with bicycle accidents

↳ However, a decrease in proportion to external causes and admissions in general

Further studies required



Photo: User:Heb on Wikimedia Commons

