# Aspirin taking in a south Wales county

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**In order to determine the taking of regular aspirin within a representative community sample of adults residing in the south Wales county of Caerphilly, we conducted a survey of a sample 9,551 adults resident in the county aged ≥18 years.**

**Questionnaires were returned by 4,558 individuals aged between 25 and 82 years. Nearly 12% of the respondents reported a previous vascular event. Of these, 68% of the men and 55% of the women stated that they took aspirin regularly. Among those with no previous vascular event, 22% of the men and 13% of the women stated that they took aspirin regularly. For those over 50 years of age, the respective figures were 28% of men and 19% of women. Of those taking aspirin, 47% stated that they took 300 mg tablets. There was a small inverse relationship found between aspirin taking and social class, namely 67% and 56% in the manual and non-manual classes respectively.**

**The prevalence of prophylactic aspirin taking by persons who have had a vascular event should be increased, particularly in women. Knowledge of the benefits and the risks of aspirin prophylaxis could be promoted through the community and there should be ongoing monitoring of aspirin taking.**


## Introduction

Daily low-dose aspirin (75–100 mg per day) substantially reduces the risk of subsequent vascular events, such as myocardial infarction and ischaemic stroke.[1] Evidence from primary prevention trials has indicated a reduction in the risk of a first vascular event,[2] but the benefit–risk balance for this is open to debate.[3]

The prevalence of aspirin taking by patients at increased vascular risk and by the general population is unknown in the UK. The following reports a survey to determine the taking of regular aspirin within a representative community sample of adult individuals in the south Wales county of Caerphilly.


## Methods

The Caerphilly Health and Social Needs Study[4] was a postal questionnaire survey of 22,236 individuals randomly sampled from the 132,613 residents aged 18 years and over in May 2001 in the county of Caerphilly. Of the 22,236 questionnaires posted, 12,408 were returned, giving an adjusted response rate of 62.7%, after removal of questionnaires sent to incorrect addresses. A follow-up questionnaire was sent to the 9,551 baseline respondents identified as still living in the county using the NHS Administrative Register in August 2008.

Five questions on aspirin taking were included, with the aim being to ascertain the prevalence of aspirin taking throughout the community and the reasons for taking the medicine or for not taking it. Four questions on the occurrence of prior vascular disease events were assessed to estimate aspirin taking in these groups. The nine specific questions are presented separately in **table 1**.

## Results

Questionnaires were returned by 4,798 individuals, giving a response rate of 53%. From these 240 (5%) were removed as their age or sex was different to that recorded in the NHS Administrative Register. The mean age of the other respondents was 56 years and 42.8% were male. **Table 2** presents a summary of the prevalence of aspirin taking within the respective age groups and also according to whether or not a previous vascular event had been experienced.

Of the respondents, 533 (11.7%, 95% confidence intervals [CI] 10.8%–12.6%) reported a previous vascular event: a heart attack, stroke or deep vein

**Table 1. Questions included in the survey**

**Five aspirin questions**

1. Do you take aspirin regularly? (binary response: yes/no)
2. What type of aspirin tablets do you take? (options: The usual aspirin tablets; Low-dose 'junior aspirin')
3. Were the tablets recommended by your doctor or a hospital specialist? (binary response: yes/no)
4. We would be grateful to know why you take aspirin regularly? (open response)
5. Is there any reason that you cannot take aspirin? (binary response: yes/no; If yes, we would be grateful to know the reason – open response)

**Four vascular disease questions**

1. Have you had a heart attack? (binary response: yes/no)
2. Have you had a stroke or mini-stroke? (binary response: yes/no)
3. Do you have diabetes? (binary response: yes/no)
4. Have you had a thrombosis in the leg? (binary response: yes/no)

**Table 2. The prevalence of aspirin by age, within all individuals and within subjects grouped by whether or not they had had a prior vascular event**

| | 25–49 years | 50–64 years | 65–82 years | All ages |
|---|---|---|---|---|
| **A prior vascular event:** | | | | |
| Males | 27% (3/11) | 71% (55/77) | 69% (132/192) | 68% (190/280) |
| Females | 43% (9/21) | 47% (37/79) | 61% (91/150) | 55% (137/250) |
| **No prior vascular event:** | | | | |
| Males | 9% (45/487) | 20% (125/611) | 36% (197/541) | 22% (367/1,639) |
| Females | 4% (40/940) | 14% (116/814) | 26% (146/552) | 13% (302/2,306) |
| **All subjects** | | | | |
| Males | 10% (48/498) | 26% (180/688) | 45% (329/733) | 29% (557/1,919) |
| Females | 5% (49/961) | 17% (153/893) | 34% (237/702) | 17% (439/2,556) |

thrombosis. Of these, 62% (95% CI 58%–66%) stated that they were taking aspirin regularly, and just under half (47%) said that they took 300 mg tablets. Almost all (97%) were taking the drug on advice from their doctor. Of the subjects in the Registrar General's non-manual occupations, 56% (95% CI 49%–63%) were taking aspirin, compared with 67% (95% CI 62%–72%) of the subjects in manual occupations.

A total of 98 (18%) of the 533 subjects who indicated that they had experienced a previous vascular event stated that they could not take aspirin. In free text answers, 43 of these stated that they were taking warfarin, 12 said they were sensitive to aspirin and 22 either experienced gastric irritation from the drug or had a peptic ulcer. Five subjects gave reasons related to bleeding but it was not possible from their responses to judge whether they avoided aspirin because of a fear of bleeding, or had experienced a bleed that had been attributed to aspirin.

The prevalence of aspirin taking in individuals who reported no prior vascular event was 17%. Among the 2,518 respondents aged 50 years or over with no prior vascular event, 28% of the men and 19% of the women (23%, 95% CI 21%–25% combined) said that they took aspirin regularly. Of the subjects in the Registrar General's non-manual occupations, 21% (95% CI 19%–23%) took aspirin regularly, compared with 26% (95% CI 24%–28%) of those in manual occupations. Of the respondents, 87% stated that they took the drug on their doctors recommendation and just under half (42%) said that they took 300 mg tablets. Among those who rated their general health as 'good', 18% (95% CI 16%–20%) took aspirin regularly, while of those who rated themselves as having 'poor' health, 35% (95% CI 32%–38%) took it.

Differences in aspirin taking between the social classes were small, but significant. One would not expect a difference among patients who had a previous vascular event, yet 67% of those in manual social classes were taking aspirin, while the prevalence in the non-manual social classes was found to be lower at 56%. A small difference in the same direction was found in the healthy subjects, namely 26% in the manual social classes and 21% in the non-manual.

## Discussion

Aspirin is of undoubted benefit in patients who have had a vascular event, and it is concerning, therefore, that the prevalence of aspirin taking in those who had a previous vascular event was 68% (95% CI 63%–73%) in men and significantly lower in women at 55% (95% CI 49%–61%). In a similar survey conducted in 2003 in patients in primary care practices across Wales, a compliance rate of 72% (95% CI 46%–84%) was found in post-infarct patients.[5] Given the introduction of the Primary Care Contract in the interval, this lack of improvement is a matter of concern.

These prevalence rates may be compared to those reported from studies in the USA. In one study, the prevalence of aspirin taking by individuals who had had a heart attack or stroke was 83%.[6] In those with neither a vascular disease event nor diabetes, aspirin taking was strongly related to the number of vascular risk factors: 21% in those reporting no risk factors to 49% in those reporting four or more factors.[6]

The inverse relationships with social class, although small, were surprising in that individuals within the manual classes had a higher uptake than non-manual, both for those who had had a vascular event and those who had not. Of the individuals who were taking aspirin, 97% of those with a prior vascular event and 87% of the individuals aged 50 years or over who had not had a vascular event, took the drug on advice from their doctor. However, understanding of the medicine seems to have been limited because around half of the individuals took 300 mg tablets, rather than the low-dose of 70–100 mg usually recommended.

Aspirin prophylaxis has been recommended for all individuals over the age of about 50 years[7,8] and the prevalence of aspirin taking by individuals over this age that had not had a prior vascular event was 23%. This appears lower than the estimate of 36% made in a survey in the USA for individuals aged 35–64 years.[6]

While the treatment of disease is the responsibility of physicians and other healthcare

professionals, the preservation of health is ultimately the responsibility of the individual.[9] Aspirin is readily available 'over the counter' in most countries and one of the responsibilities of those in healthcare is to make the risks and benefits of prophylactic measures, including medicines, clear and readily available. This is to ensure that individuals are equipped to make a well-informed decision. Another factor in this may be the self-evaluation of possible outcomes.

The data we present are limited in that they relate only to a small community within the UK. Clearly, data from a much wider survey would be of value, if evidence from this were complemented with data on hospital admissions attributable to aspirin to assess the undesirable side effects of the medicine. Furthermore, evidence on aspirin taking now may become of increased value and interest if aspirin is promoted for use in screening procedures for colon polyps and for persons with other evidences of an increased cancer risk.[10] A key finding of this study is the prevalence of prophylactic aspirin taking by persons who have had a vascular event can be increased, particularly in women. Knowledge of the benefits and the risks of aspirin prophylaxis should be promoted through the community and there should be ongoing monitoring of aspirin taking


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## Conflict of interest

None declared.

## Key messages

- 36% of men and 24% of women aged 50 years and over take prophylactic aspirin regularly
- Only 68% of men and 55% of women who have had a vascular event take aspirin regularly
- Around half of all the individuals on aspirin take 300 mg tablets
- There should be better education about low-dose aspirin taking, the risks and benefits and the appropriate dose for prophylaxis
- Aspirin taking and hospital admissions attributable to aspirin should be monitored throughout the UK

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