



The Extent of Aspirin Use for the Prophylaxis of DVT on Long Haul Flights

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DVT Research

The Extent of Aspirin Use for the Prophylaxis of DVT on Long Haul Flights

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1. Introduction:

1.1 Deep Vein Thrombosis

DVT is a condition where a blood clot (thrombus) develops in the deep veins of the legs. Whilst a DVT itself is not life threatening, the complications that can arise as a result of it are most certainly dangerous. Such complications arise when a thrombus breaks away from the wall of the vein to which it is attached and is carried along with the blood flow; this is termed an embolus. If an embolus is carried to a blood

vessel through which it cannot pass, it causes a blockage, or embolism. Most embolisms are pulmonary, which cause chest pain, breathing difficulties and in the worst cases, respiratory failure.

Various factors have been identified as contributing to a greater risk of developing a DVT. In the context of air travel, the very conditions within an aircraft present environmental risk factors, such as cramped seating conditions and enforced immobility for long periods of time. However other predisposing factors can augment such environmental factors. These predisposing factors are ¹ :

- Increasing age (above 40 years)
- Pregnancy
- Former or current malignant disease
- Blood disorders, inherited or acquired, leading to increased clotting tendency
- Some types of cardiovascular disease or insufficiency
- Personal or family history of DVT
- Recent or major surgery
- Oestrogen or hormone therapy including oral contraception
- Prolonged immobilisation
- Obesity
- Varicose veins

DVT has received substantial media attention over recent years, where it was often referred to using the misleading term "economy class syndrome". Such attention has focused on a number of fatalities resulting from a pulmonary embolism, following both long and short haul flights. Such exposure has thrust this issue into the public arena and confirmed the sparse and inconsistent data regarding the link between DVT and long haul flights and indeed, all means of long haul travel.

1.2 DVT and Travel: The Evidence

The evidence from surgical studies regarding the risk factors for developing DVT, suggests that up to 20% of the total population is thought to have some degree of increased clotting tendency ² . It is therefore certain that a proportion of the population will develop DVT during or soon after travelling. We know that environmental factors inherent with travelling long hours are associated with the development of DVT, and that in turn this poses an even greater risk in susceptible individuals. The conditions associated with air travel such as cramped seating and immobility for long periods of time are not unique to air travel. Indeed both road and rail travel are associated with similar environmental risk factors, which has led to the assertion that "any increased DVT incidence is related to long-distance travel itself, rather than with the means of transport."³ The question that now remains to be answered is whether this proportion is greater than the number of people who would have developed DVT if they had not flown or indeed travelled long-distance by road or rail.

In response to the House of Lords Paper, the Aviation Health Working Group (AHWG), chaired by the Department of Transport, commissioned a qualitative study on Public Perceptions of Deep Vein Thrombosis, which was presented in October 2003. One of the key findings was the number of respondents who were taking aspirin as a prophylactic measure against developing a DVT. There was also anecdotal evidence that a number of the medical community may have taken aspirin before long-haul travel. This raises questions about the evidence that exists for the use of aspirin as prophylaxis for DVT

and perhaps where travellers are getting their information and of what benefit they feel it will be.

1.3 Aspirin as a Prophylactic Against DVT: The Evidence

Despite the sparse data regarding the relationship between travel and DVT, there is an abundance of literature regarding DVT and aspirin, most of which is easily accessible via the Internet. What becomes clear from the available literature is the lack of consistency and the gaps in the data. Whilst there are relatively few steadfast supporters of aspirin for DVT prophylaxis, there are a large number of medics and researchers who feel it may be of some benefit, without any conclusive evidence to support their recommendations. There are also those who feel it will have little or no benefit, yet suggest taking it anyway, regardless of the potential side effects. In terms of suggested measures to take with aspirin, there are no uniform recommendations regarding dose, when to take it, for how long and at what interval.

There is evidence that aspirin has the effect of preventing blood platelets clumping, which is one step towards the formation of a blood clot. However other evidence suggests that, whilst aspirin is very effective for arterial thrombosis it is not very effective for venous thrombosis, as the mechanism by which a clot forms in the veins and the arteries are quite different.

The PEP (pulmonary embolism prevention) trial is often cited as a study which compared incidence of PE and DVT in aspirin users and non-users. It found that in 13,000 hip fracture patients, amongst those on aspirin there was one third less incidence of PE and DVT. However, as stated in the House of Lords report, it must be remembered that the development of DVT in travellers and post-surgical DVT may differ significantly. There is currently no conclusive data regarding the former and this must be considered when examining the contribution of environmental or predisposing risk factors to the development of a DVT, and in turn the relative benefit of prophylactic measures such as aspirin.

1.4 Key objective

The key objective of this research was to quantify the extent of aspirin usage amongst long-haul aircraft passengers, in order to assist in the development of public health policy regarding DVT.

¹ The House of Lords â Science and Technology â Fifth Report: *Air Travel and Health*

² & ³ The House of Lords â Science and Technology â Fifth Report: *Air Travel and Health; Chapter 6: Deep Vein Thrombosis, Seating and Stress; 6.16 and 6.19* respectively

2. Methodology and Sample:

Face-to-face interviews lasting approximately ten minutes were conducted at Heathrow and Gatwick airports by BAA interviewers between 8th September and 29th November 2004. In order to be included in the sample, respondents were required to have lived in the UK for at least two years, to be travelling on the day of the interview on a long haul flight lasting at least five hours, not be taking aspirin or heparin on a continuous basis and not be classified as risk group 4 (according to the definition below).

A total of 1672 interviews were conducted, of which 62 screened out. These are as follows: 44 were not included because they were taking aspirin or heparin, 14 were classified as risk group 4 and 4 were of unknown risk group status. This gave a final sample of 1610 with 500 respondents in risk group 1, 596 in

risk group 2 and 514 in risk group 3. In order to ensure that the data reported was not biased towards any particular risk group, a weighting factor was applied to risk groups 2 and 3 so that each represented 500 respondents. For this reason, all data cited in this report will refer to a total base of 1500 respondents.

Respondents were classified into each of the risk groups using the following criteria:

- **Group 1:** Those with no known predisposing factors
- **Group 2:** Those at minor risk - i.e. meeting one or more of the following conditions; aged over 40, very tall, very short, obese, smoker, recent minor leg injury or surgery, varicose veins
- **Group 3:** Those at moderate risk - i.e. meeting one or more of the following conditions; recent heart disease or family history of heart disease, pregnant, on any hormone medication including the contraceptive pill and HRT, recent major leg injury or leg surgery, family history of DVT or pulmonary embolism
- **Group 4:** Those at substantial risk - i.e. meeting one or more of the following conditions; previous or current DVT, known clotting tendency, recent major surgery or stroke, currently undergoing chemotherapy, paralysed lower limb(s)

The study was designed to generate robust estimates of the percentage of travellers **within each risk group** who are taking aspirin when they fly long haul. No assessments of the relative size of each risk group within the general population were made. (However, the fact that the quota for risk group 2 was reached more quickly than that for risk group 3, which in turn was reached more quickly than for risk group 1, is indicative of there being the largest number of individuals in risk group 2 and the smallest number of individuals in risk group 1 within the entire population.) Therefore mean figures from across the entire sample should not be drawn as valid sample estimates for the population as a whole.

3. Respondent Demographics:

3.1 Total sample

The sample consisted of slightly more women (55%) than men (45%). As Figure 1 shows, the average age was 35.9 years and the vast majority of respondents (95%) were white. 85% were travelling for leisure purposes and 89% were in economy class.

Figure 1: Respondent Demographics

Figure 1

3.2 Risk group 1

The proportion of females within risk group 1 was significantly lower, at approximately one-third, than the proportion within risk group 2, and risk group 3 contained the largest number of women. The reason for this is the relatively large proportion of women who were taking some form of hormone medication (including oral contraceptives and HRT). Within our risk group classification this characteristic alone will force many female respondents into risk group 3.

The average age was younger than the total sample at just over 28 years. Again almost all respondents (94%) were white. The proportions travelling economy class (93%) and for leisure purposes (84%) were very similar to the overall sample.

3.3 Risk group 2

In risk group 2 the split between females and males was more even (45% and 55% respectively) than in either risk group 1 or risk group 3. 95% of respondents were white and the majority (84%) were travelling for leisure purposes. The principal reason for classification into risk group 2 was being over 40 (64%), and this explains why the average age of risk group 2 respondents was higher (44.8 years) than for the total sample. Other reasons for classification into risk group 2 included being overweight (31%), followed by being a tobacco smoker (16%).

3.4 Risk group 3

In risk group 3 the majority (85%) were female and the average age was close to that of the total sample at 34.5 years. Again the majority were white (97%) and travelling for leisure purposes (89%). The most frequent reason for classification into risk group 3 was taking hormone medication (60%), which explains why this risk group contained such a high proportion of females. Other reasons for classification into risk group 3 included having a personal or family history of heart disease (32%) or a family history of pulmonary embolism or DVT (10%).

3.5 Geographical spread

Figure 2: Geographical spread of respondents:

Figure 2

Figure 2 shows the distribution of respondents across the UK. The regions in which the largest numbers of respondents lived were London (10.6%) and Essex (6.0%).

3.6 MOSAIC classification

The MOSAIC system is a geo-demographic classification system, within which demographic profiles are constructed based on the postcodes in which people live. Information used to build the profiles includes census information, electoral registers, consumer credit databases, mail order purchases, car registrations and market research interviews. Cluster analysis is then used to define sets of postcodes that are broadly similar, and descriptive labels are applied. MOSAIC picks out the dominant characteristics of people living within each postcode and predicts attitudes and behaviours based on probabilities.

Figure 3 shows the MOSAIC classification distribution of the sample

Figure 3: the MOSAIC classification distribution of the sample:

Figure 3

Following is a description of the most frequently occurring MOSAIC groups in the research sample:

- **Suburban Comfort** comprises people who have successfully established themselves and their families in comfortable homes in mature suburbs. Children are becoming more independent, work is becoming less of a challenge and interest payments on homes and other loans are becoming less burdensome. With more time and money on their hands, people can relax and focus on activities that they find intrinsically rewarding
- **Happy Families** contains people whose focus is on career, home and family. These are mostly younger age groups who are married, or at least in a permanent relationship, and are now raising children in post war family houses, often in areas of the country with rapidly growing populations. The focus of expenditure is on equipment for the home and garden, and the immediate family unit is the principal focus of leisure activities
- **Symbols of Success** contains people whose lives are 'successful' by whatever yardsticks society commonly uses to measure success. These are people who have rewarding careers rather than jobs, who live in sought after locations, who drive the more modern and expensive cars and who indulge in the most exotic leisure pursuits. Most, though not all, appear to enjoy stable household arrangements
- **Urban Intelligence** mostly contains young and well-educated people who are open to new ideas and influences. Young and single, and few encumbered with children, these people tend to be avid explorers of new ideas and fashions, cosmopolitan in their tastes and liberal in their social attitudes. Whilst eager consumers of the media and with a sophisticated understanding of brand values, they like to be treated as individuals, and value authenticity over veneer
- **Ties of Community** is comprised of people whose lives are mostly played out within the confines of close-knit communities. Living mostly in older houses in inner city neighbourhoods or in small industrial towns, most of these people own their own homes, own cars and hold down responsible jobs. Community norms rather than individual material ambitions shape the pattern of most residents' consumption

4. Aspirin Taking Behaviour:

4.1 Health preparations made by long-haul air passengers

Figure 4: Health preparations made by long-haul air passengers:

Figure 4

When asked what preparations they had made for their journey or flight, almost two-thirds (63%) spontaneously mentioned references that allude to the government's "Interim precautionary and preventative advice" (see Figure 4). Specific mentions included intending to drink water and stay hydrated (43%), exercising or moving around on the flight (30%) and wearing in-flight socks or support stockings (18%).

16% spontaneously mentioned some reference to aspirin, including having bought, taken or intending to take aspirin.

4.2 Health preparations made by long-haul air passengers by sex

Figure 5: Health preparations made by long-haul air passengers by sex

Figure 5

Figure 5 compares males and females in terms of the preparations that they spontaneously mentioned making for their journey or flight. Just over a fifth of females (21%) spontaneously mentioned aspirin, which is significantly higher (at the five per cent level) than the proportion of men (11%) who made general references to aspirin.

Furthermore, females mentioned references that allude to the government's "Interim precautionary and preventative advice", including intending to drink water and stay hydrated and wearing in-flight socks or support stockings, significantly more often than male respondents.

4.3 Health preparations made by long-haul air passengers by risk group

Figure 6: Health preparations made by long-haul air passengers by risk group

Figure 6

Figure 6 again shows the preparations that respondents spontaneously recalled making for their journey or flight, with a comparison between respondents in risk groups 1, 2 and 3. Almost a fifth of respondents (19%) in both risk groups 2 and 3 mentioned aspirin. This is significantly higher than the proportion of respondents in risk group 1 (11%).

This may be related to the finding that females spontaneously mentioned aspirin more often than males, as there were a higher proportion of female respondents in risk groups 2 and 3, compared with risk group 1.

4.4 Use of aspirin amongst travellers by sex

Figure 7: Use of aspirin amongst travellers by sex

Figure 7

Respondents who did not spontaneously mention having taken or planning to take aspirin when asked about the health preparations they had made for their journey or flight were directly asked whether they had taken or were planning to take aspirin. The pie chart in Figure 7 shows the proportion of all respondents who reported that they had taken or were planning to take aspirin before, during or after the flight, either spontaneously or on prompting. It can be seen that 20% of the total sample had taken or were planning to take aspirin. (NB. This should not be interpreted as a valid sample estimate for the whole UK population - see note on page 5.)

The bar chart shows that 24% of all females took or intended to take aspirin, which is significantly higher than the proportion of males who took or planned to take aspirin (15%).

4.5 Use of aspirin amongst travellers by age

Figure 8: Use of aspirin amongst travellers by age

Figure 8

The bar chart in Figure 8 shows the proportion of respondents within each age category who had taken or were planning to take aspirin. The proportion of respondents aged 55-64 who took or planned to take aspirin is significantly higher (37%) than the proportion of respondents aged under 55 who took or planned to take aspirin.

4.6 Use of aspirin amongst travellers by risk group

Figure 9: Use of aspirin amongst travellers by risk group

Figure 9

Figure 9 shows the proportion of respondents within each risk group who had taken or were planning to take aspirin. Almost a quarter (23%) of respondents in risk groups 2 and 3 had taken or were planning to take aspirin. Aspirin usage in these risk groups was significantly higher than usage amongst risk group 1 respondents, of whom 15% had taken or were planning to take aspirin.

Again this may be related to the finding that females reported taking or intending to take aspirin more often than males, as there were a higher proportion of female respondents in risk groups 2 and 3.

4.7 Use of aspirin amongst travellers by frequency of flying

Figure 10: Use of aspirin amongst travellers by frequency of flying

Figure 10

Figure 10 shows the proportion of low, moderate and high frequency long-haul flyers who had taken or were planning to take aspirin. 22% of respondents who were defined as low frequency long-haul flyers (none or one long haul flights taken in the last two years) and moderate frequency long haul flyers (between two and four long haul flights taken in the last two years) had taken or were intending to take aspirin before, during or after the flight. These respondents took or intended to take aspirin significantly more often than respondents who were classified as high frequency long haul flyers (15%; over four long haul flights in the last two years).

4.8 Use of aspirin amongst travellers by MOSAIC classification and purpose of travel

Figure 11: Use of aspirin amongst travellers by MOSAIC classification and purpose of travel:

Figure 11

The first bar chart on the right in Figure 11 shows the proportion of respondents with the most common MOSAIC classifications who took or intended to take aspirin before, during or after their flight. Respondents who were classified as Urban Intelligence took or intended to take aspirin significantly less often than respondents in the other most frequently represented MOSAIC groups (Symbols of Success and Ties of Community both 22%; Happy Families and Suburban Comfort both 23%).

The second bar chart compares aspirin usage between business and leisure travellers. Those travelling for leisure reported taking aspirin significantly more often (21%) than those travelling for business (13%). It is likely that this is related to the finding that those who travel long haul very frequently took aspirin less often than those who travel long haul moderately frequently or infrequently, as those who travel for business are significantly more likely to be highly frequent long haul flyers than moderate or low frequency long haul flyers. Conversely, those who travel for leisure are significantly more likely to fly long haul with low frequency rather than moderate or high frequency.

4.9 Aspirin dose taken or intended to take

Figure 12: Aspirin dose taken or intended to take

Figure 12

Respondents were asked to give the dosage of aspirin that they had taken or were intending to take. It can be seen in Figure 12 that a wide range of doses were mentioned, with 75mg and 300mg being most frequently cited (by 40% and 25% of respondents respectively). Overall the average dose taken was 182mg.

Doses taken by respondents in risk group 2 were significantly lower, at 149mg on average, than doses taken by respondents in risk groups 1 and 3, who took 201mg on average.

A notable proportion of respondents (22%) did not know what dose they had taken or intended to take. The proportion of respondents who could not state the dose was particularly high amongst respondents in risk group 1 (34%). Although respondents in risk group 1 were less likely than the other two risk groups to be taking aspirin, when they did, it was at a higher dose than risk group 2 and many did not know the dose they had taken.

4.10 Frequency and duration of aspirin use

Figure 13: Frequency and duration of aspirin use

Figure 13

All respondents who had taken or intended to take aspirin were asked when they had taken or planned to take it. Figure 13 shows the proportion that took or intended to take aspirin before, during and after their flight. These categories are not mutually exclusive, and therefore the data includes both respondents who took or intended to take aspirin only once and those who intended to take aspirin at multiple points.

The vast majority (89%) said that they had taken or intended to take aspirin before the flight. Just under one-fifth (19%) reported that they would take aspirin during the flight, and the same number reported that they would take it after.

Significantly more respondents in risk group 3 (27%) reported intending to take aspirin during the flight than respondents in risk group 2 (10%). Similarly, significantly more respondents in risk group 3 (26%) reported intending to take aspirin after their flight than respondents in risk group 2 (14%).

Significantly more respondents (77%) in risk group 2 took aspirin prior to their flight *only* (77%) than those in risk group 1 (62%) and risk group 3 (59%). Significantly more respondents in risk group 3 (11%) reported taking aspirin before *plus* during *plus* after their flight than those in risk group 1 (3%) and risk group 2 (4%).

4.11 Number of hours aspirin taken prior to flight

Figure 14: Number of hours aspirin taken prior to flight

Figure 14

All respondents who had taken or intended to take aspirin before their flight were asked how long prior to the flight they had taken or intended to take it. The majority of respondents (52%) were planning to take or had taken aspirin less than three hours before their flight. However, a considerable proportion had started taking aspirin more than twelve hours before their flight

Respondents in risk group 1 reported taking aspirin only three hours or less before the flight significantly more often (66%) than those in risk groups 2 (46%) and 3 (48%).

On average respondents reported that they would or had taken aspirin 5.66 hours before the flight.

4.12 Intended frequency of aspirin usage during flight

Figure 15: Intended frequency of aspirin usage during flight

Figure 15

All respondents who intended to take aspirin during the flight were asked how frequently they intended to take it during the flight. The majority (77%) said they would take it every four hours (or as stated in dosage instructions).

4.13 Intended frequency of aspirin usage after flight

Figure 16: Intended frequency of aspirin usage after flight

Figure 16

Respondents who said they would take aspirin after the flight were asked for how long after the flight they intended to take it. On average respondents said that they would take aspirin for 8.1 hours after the flight, with one-third (36%) continuing to take aspirin for more than twelve hours after the flight.

4.14 Previous aspirin taking behaviours [IMAGE]

Figure 17: Previous aspirin taking behaviours

Figure 17

All respondents who had taken at least one long haul flight in the last two years were asked for the number of previous flights on which they had taken aspirin before, during or after the flight. On average respondents had taken aspirin before, during or after 20% of their flights in the last two years. This indicates that aspirin-taking behaviour has remained static over the last two years, as the same proportion indicated having taken or intending to take aspirin before, during or after their current flight.

It can be seen in Figure 17 that female respondents took aspirin for a quarter of their previous flights, which is significantly higher than males, who took aspirin for 13% of their previous flights. This therefore follows the same pattern as aspirin taking behaviour in relation to the current flight.

Respondents in risk groups 2 and 3 have previously taken aspirin significantly more often (23%) than respondents in risk group 1 (13%). Again this follows the same pattern as for the current flight.

Infrequent long haul air travellers took aspirin on a greater proportion of previous flights (26%) than those who fly long haul moderately frequently (21%) or very frequently (16%). Whilst this shows the same general trend as the data relating to the current flight, it does differ slightly in that for the current flight, both low and moderately frequent long haul air travellers took or intended to take aspirin more often than very frequent long haul flyers.

5. Motivations Underlying Aspirin Use:

5.1 Motivation for taking aspirin before / during / after long-haul flight (aspirin-users)

Figure 18: Motivation for taking aspirin before / during / after long-haul flight (aspirin-users)

Figure 18

All respondents who had taken or intended to take aspirin were asked why they decided to start taking aspirin before, during or after their flight. Just over half (51%) spontaneously mentioned references to DVT. In particular, 34% felt it might prevent a DVT, blood clot or pulmonary embolism and 20% said they had heard or read about DVT, blood clots or pulmonary embolisms in the media.

One-third (33%) took aspirin because they had been advised to do so. In particular 11% were advised to take aspirin by their GP.

A further 19% made references relating to prior knowledge of aspirin use in this situation. These mentions included 9% who thought it might be beneficial, 7% who had heard or read about aspirin and a further 6% who specified that they had heard or read about it in the media. In addition, 10% talked about aspirin thinning the blood. It is possible that these mentions may also be indirect references to aspirin's potential benefits in preventing DVT.

5.2 Motivations for taking aspirin by perceived level of personal risk

Figure 19: Motivations for taking aspirin by perceived level of personal risk

Figure 19

Motivations for taking aspirin were compared with the extent to which respondents personally perceived themselves to be at risk of developing a DVT. It can be seen in Figure 19 that respondents who perceived their level of personal risk to be low (a score of 1 or 2) gave similar reasons for taking aspirin as those who perceived themselves to be at higher personal risk (a score of 4 or 5).

It is not the case, therefore, that those who see themselves as being at low risk have any other, different reasons for taking aspirin - they take it for the same reasons as those who see themselves as being at higher personal risk, namely for the prevention of DVT or associated reasons.

5.3 Respondents who were advised to take aspirin by a GP

Figure 20: Respondents who were advised to take aspirin by a GP

Figure 20

Figure 20 shows the demographic breakdown of the 11% of respondents who took or planned to take aspirin because they were advised to do so by their GP. Those aged between 45 and 64 were significantly more likely than those under 35 to have been advised to take aspirin by their GP. There were no other significant differences between demographic groups.

5.4 Motivations for taking aspirin before / during / after long haul flight (non aspirin users)

Figure 21: Reasons non-aspirin users perceive other long-haul flight passengers take aspirin

Figure 21

Respondents who had not taken aspirin were asked why they thought long haul air passengers might decide to take aspirin before, during or after a long haul flight. 40% cited references to DVT, which is lower than the proportion of aspirin users who mentioned references to DVT (51%).

The proportion of non-aspirin users who mentioned the more general reason that aspirin users might take aspirin because it thins the blood (55%) is far higher than the proportion of aspirin users who gave this reason (10%).

Furthermore, non-aspirin users mentioned that aspirin might be taken as a painkiller, analgesic or for headaches more often (19%) than aspirin users (4%).

6. Perception of Extent to which DVT is Associated with Long Haul Flights:

6.1 Extent to which DVT is perceived to be associated with long haul air travel

Figure 22: Extent to which DVT is perceived to be associated with long haul air travel

Figure 22

All respondents were asked the extent to which they feel that DVT may be associated with long haul air travel. Answers were given on a scale from 1 to 5, where 1 means that DVT and long haul air travel are not at all associated and 5 means that they are strongly associated.

The most popular response was 4 (given by almost one-third of respondents, 31%), closely followed by 3 (28%) and 5 (22%). Less than 15% of respondents gave scores of 1 or 2.

The average score was 3.6, and respondents who had taken or planned to take aspirin gave significantly higher scores (3.8 on average) than those who had not taken aspirin (3.57).

The association was also significantly higher among women (3.67) than men (3.5), and also among respondents in risk groups 2 (3.73) and 3 (3.61) compared with those in risk group 1 (3.45).

6.2 Extent to which DVT is perceived to be associated with long haul air travel by respondent age

Figure 23: Extent to which DVT is perceived to be associated with long haul air travel by respondent age

Figure 23

Figure 23 shows the extent to which DVT is perceived to be associated with long haul air travel across different age groups. It can be seen that DVT is most strongly associated with long haul air travel by respondents aged 55 to 64. (The association perceived by respondents in this age group is significantly higher than the association perceived amongst respondents under the age of 45.)

7. Assessment of DVT Risk:

7.1 Perceived risk of DVT amongst long haul air passengers in general

Figure 24: Perceived risk of DVT amongst long haul air passengers in general by sex

Figure 24

Respondents were asked the extent to which they feel that passengers on long haul flights in general, rather than themselves personally, are a risk of developing a DVT as a result of their journey. Respondents were given a showcard listing various potential risk bands (see Appendix IV) and asked to select the risk band that represents the extent to which long haul passengers in general are at risk.

The most popular response was that long haul passengers in general face a 3 - 5 % risk of developing a DVT. 18% of respondents selected this option, while 15% selected the 6 - 10% option. 14% thought the risk to be lower and chose the "less than 1%" option. The approximate mean estimate of the risk that long haul passengers face was 16%, calculated by assigning mid-range values to each option.

Females perceived passengers in general to be at a significantly greater risk (approximate mean risk of 19%) than males (approximate mean risk of 12%). Furthermore, respondents in risk group 3 perceived the risk to be significantly higher (approximate mean risk of 17%) than those in risk group 1 (approximate mean risk of 14%). This may be linked to the greater aspirin usage in women versus men and in risk group 3 (and 2) respondents compared with risk group 1 respondents.

Those who took or planned to take aspirin perceived passengers in general to be at a significantly greater risk (approximate mean risk of 18%) than those who did not take aspirin (approximate mean risk of 15%).

Figure 25: Perceived risk of DVT amongst long haul air passengers in general by frequency of long-haul travel

Figure 25

Those who were classified as low frequency long haul air travellers perceived passengers in general to be at a significantly greater risk (approximate mean risk of 18%) than moderate frequency (approximate mean risk of 15%) and high frequency (approximate mean risk of 14%) long haul air travellers.

Furthermore respondents who were travelling for leisure purposes perceived the risk to passengers in general to be significantly greater (approximate mean risk of 16%) than those who were travelling for business (approximate mean risk of 13%). This may be related to the previous finding, as business travellers are significantly more likely to be highly frequent long haul flyers.

It was also found that respondents who highly associated DVT with long haul travel perceived passengers in general to be at a significantly higher risk (approximate mean risk of 19%) than those who associated DVT with long haul air travel to a low (approximate mean risk of 9%) or moderate extent (approximate mean risk of 15%).

7.2 Perceived personal risk of developing a DVT

Figure 26: Extent to which passengers feel personally at risk of developing DVT during a long-haul flight by risk group

Figure 26

All respondents were asked to rate the extent to which they feel personally at risk of developing a DVT during a long haul flight. Answers were given on a scale from 1 to 5, where 1 represents no risk at all and 5 represents a high risk.

The most popular response, given by almost half of respondents (44%) was 2, with almost one-third believing that they are at no risk (score of 1 given by 30% of respondents), and one-fifth scoring themselves as 3 out of 5. Only 5% of respondents rated their personal risk of developing a DVT as 4 or 5. Overall, the mean score from all respondents was 1.99.

The graph also shows the extent of perceived personal risk across the different risk groups. Respondents in risk group 3 reported significantly higher levels of perceived personal risk (2.18 on average) than those in risk groups 2 (2.03) and 1(2.18). This demonstrates that as actual risk increases, so does perceived personal risk.

Unsurprisingly, those who had taken or planned to take aspirin perceived themselves to be at a significantly higher risk (2.33) than did respondents who had not taken aspirin (1.91).

Females gave significantly higher scores than males (2.14 and 1.81 respectively). Respondents aged 55 to 64 gave significantly higher scores (2.34) than all other age groups, with the exception of those aged over 74 (where the base was extremely small). Again this pattern correlates with high aspirin usage in women and those aged 55 to 64.

7.3 Comparison of extent to which respondents associate DVT with long haul air travel and the extent to which they feel personally at risk

Figure 27: Comparison of extent to which respondents associate DVT with long haul air travel and the extent to which they feel personally at risk

Figure 27

Figure 27 shows the extent to which respondents associate DVT with long haul air travel cross-tabulated with the extent they perceive themselves to be personally at risk. The mean scores show that, as the extent to which respondents associate DVT with long haul air travel increases, so does the extent to which respondents feel personally at risk.

7.4 Comparison of extent to which respondents associate DVT with long haul air travel compared with the extent to which they associate DVT and other means of long haul transport

Figure 28: Extent to which passengers consider long haul flights and other means of long-haul transport to pose a risk for DVT

Figure 28

All respondents were asked to estimate the percentage risk of developing a DVT posed by long haul transport other than flying, and to select the most appropriate band from a showcard (Appendix A).

Figure 28 shows that more respondents gave risk estimates of 2% and under for other forms of long haul transport than for long haul flights. Indeed, the approximate mean risk of developing a DVT on a long haul flight is perceived to be 16% on average, compared with an approximate mean risk of developing a DVT on other forms of long haul transport of 10%.

It can be seen that amongst both male and female respondents, and aspirin users and non-users, the risk of developing a DVT on long haul transport other than flights was estimated to be lower than the risk of developing a DVT on a long haul flight.

As with the risk of developing a DVT on a long haul flight, females also perceive the risk of developing a DVT on other forms of long haul transport to be significantly higher (approximate mean risk of 12%) than males (approximate mean risk of 7%).

Those who have taken or intend to take aspirin perceive the risk of DVT presented by other means of long haul transport (approximate mean risk of 13%) to be higher than those who have not taken aspirin (approximate mean risk of 9%).

Risk group also impacts on perceived risk presented by other forms of long haul travel: those in risk group 3 estimated there to be an approximately 11% chance of developing a DVT on a long haul journey other than flight, which is significantly higher than the level of risk estimated by those in risk group 1 (approximate mean risk of 8%).

8. Extent to which Aspirin is Perceived to be of Personal Benefit:

8.1 Extent to which taking aspirin is perceived to be of personal benefit

Figure 29: Extent to which taking aspirin is perceived to be of personal benefit

Figure 29

All respondents who had taken or planned to take aspirin were asked to rate the extent to which they felt that taking aspirin would be of personal benefit in terms of preventing a DVT. Answers were given on a scale from 1 to 5, where 1 means of no benefit and 5 means of significant benefit.

The mean score was 3.42, representing a moderate perceived benefit on average. 43% of respondents perceived aspirin to be of benefit in terms of preventing a DVT, giving a rating of 4 or 5. 39% of respondents gave a neutral rating (a score of 3), and 14% did not perceive aspirin to be of benefit in preventing a DVT (a rating of 1 or 2).

Respondents in risk group 2 reported significantly higher perceived benefits of taking aspirin (mean of 3.52) than those in risk group 1 (3.21). High frequency long-haul air travellers perceived aspirin to be of significantly greater personal benefit (3.63) than low frequency long-haul air travellers (3.35). This may be seen as somewhat surprising given that high frequency long haul flyers are less likely to be taking aspirin than those who rarely fly long haul.

Those aged 55-64 perceived aspirin to be of significantly greater personal benefit (3.73) than those under 45 years of age. This is consistent with passengers in this age group being more likely to take aspirin. Those who were overweight, defined as a BMI of over 25, perceived aspirin to be of significantly greater personal benefit (3.67) than those who were not overweight (3.37)

8.2 Extent to which taking aspirin is perceived to be of personal benefit compared with perceived level of personal risk

Figure 30: Extent to which taking aspirin is perceived to be of personal benefit compared with perceived level of personal risk

Figure 30

Figure 30 shows the extent to which taking aspirin was perceived to be of personal benefit in terms of preventing a DVT cross-tabulated with the perceived level of personal risk of developing a DVT during a long haul flight.

It should be noted that the base for those who gave a rating of 1 for the extent to which aspirin is perceived to be of personal benefit is too small to base conclusions on. Therefore we will focus on those respondents who gave a rating of 2, 3, 4 or 5.

It can be seen from the mean scores that those who perceive aspirin to be of greater personal benefit also perceive themselves to be at greater personal risk.

9. Conclusions:

9.1 Aspirin use

Of the total sample of 1500 respondents, 20% had taken or planned to take aspirin before, during or after their long haul flight. (NB. This figure should not be employed as a valid sample estimate for the population of long haul flyers due to the quota controls that were in place for the research [see page 5]).

Aspirin use was found to be higher amongst those in risk groups 2 and 3, females, those aged 55 and over and those who have flown long haul no more than 4 times in the last two years. Below is a more detailed explanation of the underlying rationale for aspirin use amongst these groups.

9.2 Risk group 2

Amongst both aspirin users and non-users, respondents in risk group 2 associated DVT with long haul air travel more than those in risk group 1. Amongst aspirin users only, those in risk group 2 mentioned being advised to take aspirin by their GP more often than those in risk group 1. Moreover these respondents perceived the benefit that aspirin offers to them personally in preventing DVT as being greater than those in risk group 1.

9.3 Risk group 3

Within risk group 3, both users and non-users of aspirin associated DVT with long haul air travel more than those in risk group 1. They also perceived passengers in general to be at a greater risk of developing a DVT during a long haul flight than did respondents in risk group 1. Furthermore they perceived their personal level of risk to be higher than those in risk groups 1 and 2.

9.4 Females

Overall, all female respondents were significantly more likely to spontaneously mention aspirin as a health preparation than males were, and they associated DVT with long haul air travel more than male respondents. They also perceived passengers in general and themselves personally to be at higher risk of developing a DVT during a long haul flight than male respondents did.

9.5 Respondents aged 55 to 74

Both users and non-users of aspirin within this group associated DVT with long haul air travel more than younger respondents. They also perceived themselves to be at greater personal risk of developing DVT than younger respondents. Of those who had taken or intended to take aspirin, they perceived the benefit that aspirin offers to them personally in preventing a DVT as being greater than younger respondents.

9.6 Infrequent long haul air travellers

All respondents who flew long haul infrequently perceived passengers in general to be at greater risk of developing DVT than did those who have flown long haul twice or more in the last two years. However, amongst those who had taken or planned to take aspirin, infrequent long haul air travellers perceived aspirin to be of less benefit in preventing DVT than those who fly more regularly.

9.7 Timing and dosing of aspirin use

Of those who had taken or planned to take aspirin, the majority (89%) reported that they had taken or would take it before the flight, and 52% of these said they would or had taken it only up to three hours before the flight (mean number of hours was 5.66).

Of those planning to take aspirin, 19% said that they were planning to take it during the flight and 19% reported planning to take it after the flight. Of those planning to take it during the flight, 77% said they would take it every four hours (or as stated in the dosage instructions).

Of those planning to take it after the flight, 36% said they would continue to take aspirin for more than twelve hours after the flight (mean number of hours was 8.1).

The mean dose taken was 182mg, with 75mg and 300mg being the doses that were mentioned most frequently.