Original Article

Screening for abdominal aortic aneurysm
General practitioner & population perspectives

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Abstract
Screening all men between 65-74 years with ultrasound is not current practice as there are concerns over high costs and anxiety levels amongst the population.

Objectives
To obtain the opinions from general practitioners and three specific population groups with regard to acceptability of a screening program for men between 65-74 years of age.

Methods
A sample of 30 general practitioners and 90 men (30 who had no known, 30 who were under ultrasound surveillance for their aneurysms and 30 who had had abdominal aneurysms repair) were interviewed. At each interview, patients were asked about their prior knowledge of aneurysms and were then given an information sheet providing a summary of the current evidence and concerns with regard to a population based screening. Following this, each participant answered a questionnaire with regards to acceptability, anxiety levels and costs of screening.

Results
93.3% of general practitioners and 98.8% of the population wished to have a screening program established for all men between 65-74 years. Fifty percent of the general practitioners and 60% of the population felt this would not increase anxiety in the population. Of those who felt such screening would raise anxiety, 80% felt they would only be mildly anxious, but still felt that screening was desirable. The possibility of finding a condition likely to require major surgery if found while screening was acceptable to 40% of the general practitioners, but only 4% of the population.

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surgery was the commonest reason for anxiety. In a hypothetical situation where ultrasound screening was only available at a cost, 40% of the population would pay at least £50 and 40% of patients found a fee of £5-10 acceptable.

**Conclusion**

Our study shows that the majority of general practitioners and population when fully informed, would have no anxiety with a population based screening program for abdominal aortic aneurysms.

**Keywords:** screening for abdominal aortic aneurysms, population anxiety

**Introduction**

Abdominal aortic aneurysms (AAA) predominantly affect men between the ages of 65-74 and the ruptured one kill more than 400 men in England and Wales each year, 1.9% of male deaths in this age group\(^{(1)}\). The incidence is also increasing both due to an age-adjusted increase and as a result of an increase in the elderly population\(^{(2,3)}\).

The prevalence of abdominal aortic aneurysm is 3.87%, higher in certain high risk groups like smokers, patients with peripheral arterial occlusive disease, hypertension, ischaemic heart disease and brothers and sons of Abdominal aortic aneurysms sufferers\(^{(4)}\). The natural history is progressively increasing in size. Those with a diameter of less than 4cm increase at a rate of 0.8mm/year, between 4-5cm at 2.3mm/year and those greater than 5cm at 3.8mm/year with risks of rupture high at a diameter greater than 6cms. The vast majority of abdominal aortic aneurysms is asymptomatic and not detected until they rupture\(^{(5)}\). About 27-50% with ruptured aneurysms die before reaching hospital and of those who make it to hospital, 24-58% die before operative intervention, and only 50% of patients who have emergency repair survive\(^{(6)}\).

Elective surgery carried out predominantly by vascular surgeons is associated with a mortality of less than 5%, a better life expectancy at a lower cost as compared to emergency repair\(^{(7)}\). Improved outcomes from elective surgery have however made no difference to the overall mortality as the incidence of abdominal aortic aneurysm is rising\(^{(8)}\). Those who have elective repair are currently detected either whilst ultrasound is carried out to screen for abdominal aortic aneurysms in patients with peripheral arterial occlusive disease or incidentally detected whilst ultrasound is carried out for an unrelated condition.

Abdominal aortic aneurysms can be detected early by ultrasound scan (sensitivity and specificity approaching 100%). Despite this there are no population based screening programs as there are perceptions that this would cause anxiety in the population and would incur a high cost.

The aim of this study was to obtain informed population perspectives on anxiety levels and their attitudes towards cost.

**Methods**

Local Ethics Committee approval was obtained. One hundred and twenty, face-to-face interviews were carried out by two interviewers at the Kent & Canterbury Hospital and at GP’s Surgeries, and at patient residences. All patients were between the ages 65-74 years.

The population samples were:

- Sample 1: Population with no known Aneurysm (n=30)
- Sample 2: Patients with their Aneurysms under surveillance (n=30)
- Sample 3: Post Aneurysms repair (n=30)
- Sample 4: General practitioners (n=30)

At each interview patients were asked about their prior knowledge of AAA and were then given an information sheet providing a summary of the current evidence and concerns with regard to a population based screening. Following this each answered a questionnaire with regards to acceptability, anxiety levels and costs of screening.

The responses to questions about information levels, acceptability, anxiety levels and costs from the four population samples are presented in tables and figures.
Results
1. Participants were asked about their prior information about its consequences.

Sample 1: Population with no known AAA
86.6% they had never heard about.

Sample 2: Patients undergoing ultrasound surveillance for AAA.
All thirty patients were aware of the condition. Forty percent had their aneurysm detected accidentally. Thirty percent had been found following screening as part of routine evaluation of symptomatic arterial disease in their limbs. Their own doctor detected 10% following suspicion. A hospital doctor detected 10% following suspicion and 10% were found following screening as a result of having a family member with.

Sample 3: Patients who had undergone AAA surgery, 100% were aware of the condition.

2. Acceptability of population screening, for abdominal aortic aneurysms.

Sample 1: Population with no known abdominal aortic aneurysms, 100% wished to have a population-based screening program.

Sample 2: Patients undergoing surveillance-ultrasound surveillance.
All patients (100%) wished to see a population based screening program in place.

Sample 3: Patients who had undergone AAA surgery.
96.6% wished to see a population based screening program.

Sample 4: General Practitioners.
93.3% supported screening; 6.6% were against screening as felt it would unnecessarily raise anxiety levels in the population.

3. Anxiety
3a: Perception of population anxiety
Sample 1: Population with no known AAA.
70% felt a population based screening program would not create anxiety in the population.

Sample 2: Patients undergoing surveillance-ultrasound surveillance.
56.6% perceived some anxiety in the population, whilst thirteen 43.3% felt this would not be the case.

Sample 3: Patients who had undergone AAA surgery.
66.6% felt the population would have no anxiety with screening.

Sample 4: General Practitioners.
General Practitioners were split equally between those who felt screening may cause anxiety, and those who felt screening would not cause anxiety.

3b: Individual levels of anxiety
Sample 1: Population with no known AAA.
73.3% felt no anxiety, 20% felt mildly anxious,
3.3% felt moderately anxious and one 3.3% felt very anxious.

Sample 2: Patients undergoing surveillance Ultrasound Surveillance
50% felt no anxiety, 36.6% felt mild anxiety, 6.6% felt moderately anxious and 6.6% felt very anxious.

Sample 3: Patients who had undergone Abdominal Aortic Aneurysm Surgery
70% felt no anxiety, 23.3% felt mildly anxious, 3.3% felt moderately anxious and 3.3% felt very anxious.

Sample 4: General Practitioners
60% felt no anxiety, 30% felt mildly anxious, 10% felt moderately anxious and none felt very anxious.

3c: Commonest reason for anxiety
The possibility of having to undergo major surgery if an AAA was found was the commonest reason for anxiety in all the four population samples. (56.6%, 46.6%, 60% and 50% respectively in population samples 1,2,3 & 4).

4. Acceptable fee per scan
The population samples felt that a fee of £100, £50, £10 and £20 would be acceptable per scan respectively.

Discussion
We consider our results to have a strong impact on the case for population-based screening for AAA.

Our study for the first time shows that contrary to widely held views in the profession, the overwhelming majority (>90%) of the population would not be anxious if a population-based screening program was implemented. The widely held paternalistic assumptions about population anxiety with regards to population screening was reflected in our study with 50% of the general practitioners expressing a view that their patients may feel anxious. Over 80% of the population wished to have a population-based screening program irrespective of their anxiety levels reinforcing that the population do no feel anxiety should be used as an argument against screening.

With regards to attitudes towards cost, all the samples of the population in this project all felt it acceptable to pay a fee for a scan. We accept that this is likely to be generalisable only to the population from which this sample was taken and may not be acceptable to other populations but our study raises the important issue of not assuming that populations may not accept screening due to perceived biases about acceptability and recommend that population be specifically asked this question rather than basing judgements on assumptions.

The interviewers found the population interviewed expressing a high degree of interest in the topic and were able to understand both the condition and the controversies being addressed in this interview. From a qualitative perspective, valid data come from closeness of contact, and the criterion for understanding is ‘verstehen’ (Max Weber 1897 in Research Decisions, Qualitative and Quantitative perspectives by Ted Palys 1992 ISBN 0039226085) the participant’s perspective and therefore we consider our data valid and ought to have a positive impact on the case for population-based abdominal aortic aneurysm screening.

In conclusion, our study shows that the majority of general practitioners and population when fully informed, would have no anxiety with a population based screening program for AAA. Our population would wish to have such a screening program in place irrespective of anxiety levels, and, if required, contribute towards costs of such screening.
References