



## Prevalence of health anxiety problems in medical clinics

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### ABSTRACT

**Objectives:** To determine the prevalence of significant health anxiety (hypochondriasis) in patients aged 16–75 in cardiology, respiratory medicine, neurological, endocrine and gastrointestinal clinics in general hospitals in London, Middlesex and North Nottinghamshire.

**Method:** The Health Anxiety Inventory (HAI) (short form) was administered to patients attending the five clinics over a 21 month period and all those who scored 20 or more invited to take part in a further assessment for a randomised controlled trial.

**Results:** Of 43,205 patients attending the clinics 28,991 (67.1%) were assessed and of these, after exclusion of ineligible patients 5747 (19.8%) had significant health anxiety. 444 subsequently agreed to take part in a randomised controlled trial of treatment. The prevalence levels varied by clinic with neurology (24.7%) having the highest prevalence followed by respiratory medicine (20.9%), gastroenterology (19.5%), cardiology (19.1%), and endocrinology (17.5%).

**Conclusion:** Abnormal health anxiety is common and a significant problem in those attending medical clinics and deserves greater awareness.

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### Introduction

Excessive health anxiety – and its older synonym, hypochondriasis – is relatively common in both primary care (between 0.8 and 3.05%) [1–3] and some secondary medical care settings (4.2% and 10%) [4,5], has a generally poor outcome with less than 50% recovery [6] and also places a substantial burden on health services [7]. As many of the unnecessary investigations and tests associated with health anxiety are carried out in medical out-patients it is not surprising that there is a higher prevalence in these settings, but there is limited knowledge of the extent of this condition in general hospital settings. As an initial part of a large multi centre randomised controlled trial to determine the effectiveness of treatment of abnormal health anxiety we determined the prevalence of the condition pathological health anxiety in five types of clinic at six

hospitals in London, Middlesex and North Nottinghamshire over a 21 month period.

### Method

The data were collected as the first phase of the CHAMP study (Cognitive behaviour therapy for Health Anxiety in Medical Patients); a randomised controlled trial (ISRCTN14565822) comparing the effectiveness of health anxiety directed cognitive behaviour therapy and normal treatment in the clinic in reducing health anxious and associated symptoms over two years, and also improving the social function and quality of life of those with pathological health anxiety [8]. The costs of care in each of the two groups are also being compared.

In the first phase of the study all patients attending cardiology, respiratory medicine, neurological, endocrine and gastrointestinal clinics at St Mary's Hospital, Paddington, Charing Cross Hospital, Chelsea & Westminster Hospital (all London), Hillingdon Hospital, Northwick Park Hospital, Mount Vernon Hospital (all Middlesex) and King's Mill Hospital (North Nottinghamshire) were invited to complete a

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questionnaire (Health Anxiety Inventory (HAI) [9]) to identify those who probably had a significant degree of health anxiety (a score of 20 or more), which is an agreed threshold level for pathology [9]. Those that scored below this threshold were not seen again, and the high scorers were interviewed again to determine the feasibility of taking part in the randomised controlled trial. The study was approved by the Nottingham Ethics Committee to run on all sites.

The short version of Health Anxiety Inventory was chosen as the preferred measure for screening patients as it has been shown to be more sensitive to other instruments in detecting those with hypochondriasis and is as sensitive as the long version of 23 items [9]. It shows good temporal reliability (with a product-moment correlation of 0.90 between scores of hypochondriacal patients tested one week apart) and is associated with higher scores in such patients compared with those with panic disorder or other anxiety disorders [9]. Scores on the HAI are also significantly lower in patients being investigated with MRI scans and in an unselected group of those attending gastro-intestinal clinics.

## Procedure

At the beginning of the study at each of the six hospitals the consultants in cardiology, respiratory medicine, gastroenterology and endocrinology were approached and asked to approve the study in principle at their clinics. Neurology clinics were also included from September 2009. Once clinics were identified the relevant staff were seen and agreement for the best procedure for approaching patients for screening with the Health Anxiety Inventory reached. Research assistants, helped by Clinical Studies Officers from the North London and East Midlands Research Networks, administered the short form of the Health Anxiety Inventory (HAI) [5], a rating scale of 14 questions that takes 5–10 min to complete. The high scorers were regarded as having significant health anxiety, irrespective of the presence or absence of physical pathology, and assessed further for possible inclusion in the CHAMP randomised trial.

In most clinics the questionnaire was administered by the researcher approaching potentially suitable patients aged between 16 and 75 while they were waiting for their appointments. As this depended on a research assistant being available to see all patients in the clinic it was not always possible to screen every one, but the total numbers of patients attending the clinics were also obtained.

The study was explained using a standard format. This was initiated by the research worker describing the project as a way of finding out the proportion of people attending the clinic who might have 'worries about their health', before handing out the questionnaire. As some people might have been concerned that disclosure of their worries could prejudice their medical treatment the scored information was promised to be kept confidential. For the low HAI scores (<20) no further appointment was made and the completed questionnaires not retained. The high scorers were invited to take part in a further interview to determine their suitability for the randomised trial. To progress to randomisation (i) the patient's consultant or other relevant doctor needed to approve their participation as appropriate in the light of their current pathology, (ii) the criteria for a diagnosis of hypochondriasis using the Structured Interview for DSM-IV [10] were reached, and (iii) the patients approved their entry to the trial after reading an information sheet describing the process of participation in the randomised process. Ethical approval was obtained from the Nottingham Research Ethics Committee 1 (08/H0403/56) with amendments to carry out the study at all named sites.

## Analysis of data

The definition of significant health anxiety was determined by a score of 20 on the HAI. Although it was recognised that some of these individuals might not satisfy the diagnostic requirements for

hypochondriasis they nonetheless had significant health anxiety that was causing genuine distress and other symptoms and so all these individuals were included. To compare the prevalence rates across different types of clinics, a generalised linear model was employed. The estimated difference and its 95% confidence interval (CI) in the prevalence rate between each clinic and the average of all clinics were derived using an effect coding method. SAS 9.2 was used for the data analysis.

## Results

The patients were recruited between October 2008 and July 2010. Of a total of 57,902 attendances at the clinics of 107 consultants over a 21 month period between October 2008 and July 2010, 28,991 patients were given the HAI. 5769 (19.9%) of these scored 20 or more on the Health Anxiety Inventory and so were regarded as having significant health anxiety. The prevalence rates and the results from the generalised linear model analysis are presented in Table 1. The regression analysis showed a significant difference in the prevalence rate of HAI among different clinics ( $\chi^2 = 71.26$ ,  $P < 0.0001$ ), with those attending neurology clinics having the highest prevalence (24.7%) and endocrinology the least (17.5%). Compared with the average prevalence rate across all clinics, those attending neurology clinics had significantly higher rate of 4.3 (95% CI: 3.12, 5.64;  $P < 0.0001$ ) whereas those attending endocrinology clinics had significantly lower rate of -2.84 (95% CI: -3.75, -1.92;  $P < 0.0001$ ). People attending cardiology and gastroenterology clinics also had a lower rate of high health anxiety than the average level of all clinics.

## Discussion

The results indicate that a significant, and numerically large, proportion of patients attending medical out-patient clinics have significant pathological worries about their health. The size of the study suggests that these figures are representative but they have some limitations. The numbers refer to attendances and although many patients were approached more than once and said they had already filled in the questionnaire others may have completed it twice or more. One patient who was seen nearly 12 months after completing the HAI and was randomised, on the second time was randomised again (fortunately to the same arm of the trial), and this was only identified later. The study was not a true prevalence study and as people who worry about their health may attend more often than others they would be more likely to be seen by researchers. Although the score of 20 on the Health Anxiety Inventory has been regarded as an appropriate threshold for significant health anxiety [9] it is possible that in medical settings some patients with known medical pathologies may be false positives, although in practice even with this group the threshold seems to be appropriate in terms of response to therapy [11,12]. A recent study of the factor structure of the HAI

**Table 1**

Prevalence of significant health anxiety in cardiology, endocrine, gastrointestinal, neurology and respiratory medicine clinics.

Clinic type	Total assessed	Number with HAI scores $\geq 20$	Prevalence rate	Difference and 95% CI <sup>a</sup>	P-value
Cardiology	6303	1206	19.13	-1.20 (-2.10, -0.30)	0.0093
Endocrine	5637	986	17.49	-2.84 (-3.75, -1.92)	<0.0001
Gastroenterology	8924	1737	19.46	-0.86 (-1.67, -0.06)	0.0355
Neurology	3205	792	24.71	4.38 (3.12, 5.64)	<0.0001
Respiratory medicine	4922	1026	20.85	0.52 (-0.49, 1.52)	0.3161
All	28,991	5747	19.82		

<sup>a</sup> The difference (and its 95% CI in the prevalence rate between each clinic and average of all clinics) is estimated from a generalised linear model.

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