

Increase in the prevalence of health anxiety in medical clinics: possible cyberchondria

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Complete List of Authors:	Tyrer, Peter; Imperial College London, Centre for Psychiatry Tyrer, Helen; Imperial College London, Centre for Psychiatry Cooper, Sylvia; Imperial College London, Centre for Psychiatry Wang, Duolao; Liverpool School of Tropical Medicine, Statistics Bassett, Paul ; Amersham, Buckinghamshire
Keywords:	health anxiety, cyberchondria, prevalence, medical patients
Abstract:	<p>Background: Health anxiety may be an increasing problem because of the focus on monitoring health and increasing use of the internet for self-diagnosis (cyberchondria). There is very little information about changes in the prevalence of health anxiety.</p> <p>Aims: We compared the prevalence of health anxiety in four medical clinics in one hospital over a four year period using the Health Anxiety Inventory (HAI) as a diagnostic marker.</p> <p>Method: Patients attending cardiology, endocrine, gastroenterology, and respiratory medicine clinics at Kings Mill Hospital, North Nottinghamshire, completed the HAI while waiting for their appointments. There were eight research assistants involved in collecting data, two in the 2006-8 period and six in the 2008-10 period. As a consequence more data were collected on the second occasion.</p> <p>Results: There was an increase in the prevalence of health anxiety from 14.9% in 2006-8 (54 positive of 362 assessed) to 19.9% (1132 positive out of 5704 assessed) in 2008-10. This increase was primarily noted in gastroenterology clinics (increase of 10%) and not shown in endocrine ones.</p> <p>Conclusion: The prevalence of health anxiety is increasing in those who attend medical out-patient clinics. Reasons are given that this may be a possible result of cyberchondria, as the excessive use of the internet to interpret troubling symptoms is growing. Further studies are needed in other populations, but there is reason to be concerned at this trend as it is likely to increase the number of medical consultations unnecessarily.</p>

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Peter Tyrer¹, Sylvia Cooper¹, Helen Tyrer¹, Duolao Wang² & Paul Bassett³

¹ Centre for Psychiatry, Imperial College, London

² Department of Statistics, Liverpool School of Tropical Medicine, Liverpool, UK

³ Independent Statistical Consultant, Amersham, UK

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Introduction

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3 The diagnosis of health anxiety is a relatively new concept. It is often regarded
4 as a synonym for hypochondriasis, but it is not exactly the same. Although there
5 continues to be some dispute over the subject, health anxiety can probably be
6 regarded as anxious hypochondriasis and is best construed as an anxiety
7 disorder (Scarella et al, 2016; Tyrer, 2018), although there is overlap with
8 obsessional disorders (Stein et al, 2016). It has a more restricted definition than
9 hypochondriasis, as this describes the primary preoccupation with having a
10 disease. It includes considerable depressive pathology, sometimes to the point
11 of delusions, expressed most severely as Cotard's syndrome (Berrios & Luque,
12 1999).

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25 The best equivalent of health anxiety is the diagnosis of illness anxiety in DSM-5,
26 which includes the anxious preoccupation with either having, or in danger of
27 having, a currently undiagnosed medical illness, in which the distress is created
28 not by physical symptoms but by anxiety about their disease implications
29 (American Psychiatric Association, 2013). In the forthcoming ICD-11
30 classification health anxiety is included under the general diagnosis of
31 hypochondriasis, not very different from that in DSM-5 but including '
32 catastrophic misinterpretation of bodily signs or symptoms' as a feature, which
33 is not always present in people with abnormal health anxiety.

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The most likely estimate of its prevalence in the community comes from the
Australian National survey in which figures of 6.3% for lifetime prevalence and
3.5% for current prevalence were found (Sunderland et al, 2013). This can be
regarded as a baseline figure only, and there are suspicions that the condition is
increasing in prevalence because of general guidance to people to monitor their
own health with the help of apps (Parker et al, 2016) and the growing use of the
internet and social media to advise and diagnose symptoms (Starcevic and
Aboujaoude, 2015), including cyberchondria, the repeated use of the internet to

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3 diagnose symptoms unnecessarily, which is very closely linked to health anxiety
4 (Fergus and Russell, 2016), and which has been shown to increase its severity
5 and persistence (Doherty-Torstrick et al, 2016). But, despite these suspicions,
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7 currently there is no good evidence that the prevalence of health anxiety is
8 increasing and in the current research of our group we had an opportunity to
9 evaluate this.
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19 **Method**

20 *Participants*

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23 The patients invited to take part in both of these studies were all attending
24 cardiology, respiratory medicine, gastroenterology and endocrinology clinics at
25 Kings Mill Hospital, North Nottinghamshire, UK. This is a general hospital that is
26 fairly typical of general hospitals in the NHS. The patients in each study were
27 assessed for health anxiety but seen for different purposes. The first study was
28 a preliminary one to assess the relationship between health anxiety and other
29 somatic symptoms by comparing scores on a standard scale for assessing health
30 anxiety (Short Health Anxiety Inventory)(Salkovskis et al, 2002) and a new one
31 for assessing unexplained symptoms (Schedule for Evaluating Persistent
32 Symptoms (SEPS)(Tyrer et al, 2013). Patients attending cardiology, respiratory
33 medicine, endocrine and gastrointestinal clinics were selected in the study.
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35 There were only a few part-time research assistants available in this study and
36 they visited clinics on an ad hoc basis over a period of 24 months (August 2006-
37 July 2008). The timing of their visits was organised so that all relevant clinics
38 were covered during the course of the study.
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3 The second study was carried out as a large randomised controlled trial of the
4 efficacy of an adapted form of cognitive behaviour therapy in the treatment of
5 health anxiety, the CHAMP study (Tyrer et al, 2011a, 2011b, 2014), in which
6 patients were recruited over 20 months between October 2008 and July, 2010.
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8 In this study there were many more research staff and they aimed to assess the
9 majority of patients attending cardiology, respiratory medicine, neurological,
10 endocrine and gastroenterology out-patient clinics at King's Mill Hospital (and
11 five other hospitals across England). For the purposes of the current study only
12 those attending King's Mill Hospital were considered.
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24 In both studies patients attending were invited to complete the Short Health
25 Anxiety Inventory (SHAI)(Salkovskis et al, 2002) to identify those who probably
26 had a significant degree of health anxiety (a score of 20 or more, now accepted
27 as an accurate threshold (Hedman et al, 2015). Those that scored below this
28 threshold were not seen again, and the those who scored above the threshold
29 were interviewed again to determine the feasibility of taking part in the full
30 randomised controlled trial. In the second study patients attending
31 neurological clinics were also seen but they were excluded from the two study
32 comparison. Ethical approval was given by the Derbyshire Research Ethics
33 Committee (06/Q2401/130) for the first study (2006-7), and by the North
34 Nottingham Research Ethics Committee (08/H0403/56) for the second.
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49 **Results**

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52 362 patients were screened in the first study and 5704 in the second (Table).
53 The difference can largely be explained by the research time available for
54 assessment. This was 10 times more (30 hours vs 3 hours per week) in study 2
55 than in study 1.
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The mean \pm standard deviation HAI scores for each of the clinics and in total are shown (Table).

Clinic type	Study 1: Screened	Study 1: number with HAI \geq 20 (%)	Study 2: Screened	Study 2: number with HAI \geq 20 (%)	Change in % of health anxiety	Significance
Cardiology	122	21 (17.2)	1877	396 (21.1)	+3.9	0.30
Endocrinology	21	6 (28.6)	1691	345 (20.4)	- 8.2	0.36
Gastro-enterology	132	15 (11.4)	762	165 (21.7)	+10.3	0.0065
Respiratory Medicine	87	12 ((13.8)	1374	226 (16.5)	+ 2.7	0.51
All clinics	362	54 (14.9)	5704	1132 (19.9)	+5	0.02

TABLE Comparison of prevalence of health anxiety over time between 2005-8 (Study 1) and 2008-2010 (Study 2) at King's Mill Hospital, Notts in four medical clinics

Discussion

The results of this study are, we believe, the first to show an increase in the prevalence of health anxiety over a relatively short period. Although there have been many suspicions that health anxiety is becoming more frequent, partly because of cyberchondria, this is the first study to show a definite increase, even though it was only over a two year period and the increase was not dramatic. The main limitation of the findings is that the two studies were not pre-planned to be linked, but the clinics were identical and the use of the SHAI questionnaire obviated any question of bias. The SEPS scale used in the first study was a

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3 project to evaluate its psychometric properties and other instruments such as
4 the Whitely Index might have been used if these studies had been linked in
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11 Although there was an overall increase in the prevalence of pathological health
12 anxiety a significant increase was only shown in gastroenterology clinics. This
13 may be related to the much wider use of colonoscopy and endoscopy in recent
14 years and greater attention given to conditions such as irritable bowel
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16 syndrome. The level of health anxiety in these patients has been noted to be
17 high and reassurance counter-productive (Gasteiger et al, 2018). This type of
18 patient is likely to very frequent in gastroenterology clinics.
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29 The other limitation that avoids general conclusions being drawn is that this
30 study was carried out in medical out-patients, a population in which health
31 anxiety is known to be highly prevalent (Tyrer et al, 2011), and so the results
32 may not generalize to other populations.
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42 One of the major concerns in the health services of today is the increasing focus
43 of personal responsibility in monitoring health, and this is a proper subject to be
44 addressed by social psychiatry, even though most of the people with this
45 disorder present to general hospitals, not mental health services. Whilst the
46 fundamental principles behind this are sound the dangers of unnecessary worry
47 and concern have been insufficiently recognised. The consequence is
48 unnecessary consultation, over-investigation and preventable suffering (Tyrer et
49 al, 2015). Now that there are effective means of treating health anxiety that are
50 cost-effective and long-lasting (Tyrer et al, 2017; Morriss et al, 2018) there is a
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3 need to redress the balance so that all practitioners become aware of the need
4 to identify health anxiety before it becomes pervasive. The message of this
5 paper is that the need for such an initiative is becoming urgent.
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