

“Muddling by googling” – Cyberchondria among outpatient attendees of two hospitals in Sri Lanka

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Abstract

Background

The internet is widely used as a source of health information, and the negative effects of this practice is well documented. Cyberchondria, the unfounded escalation of concerns about common symptoms based on review of online information has been identified as a major concern. This area has not been studied in Sri Lanka.

Aims

We studied the prevalence, nature and effects of cyberchondria among outpatients in Sri Lanka.

Methods

Data was gathered from 300 outpatients, 150 patients each attending a government and private hospital in Western province using a self-administered questionnaire.

Results

Out of 300 participants 178 were female and the average age was 42 years. Only 24% of the participants used the internet as an information source on health related issues. The prevalence of cyberchondria was 16.3% in our study population. Cyberchondria was significantly more common among outpatients of the private hospital. A majority of patients who made a self-diagnosis using online information had made an incorrect diagnosis. One third of internet users felt anxious after searching about their symptoms and 34% sought further medical advice following internet use.

Conclusions

The possible negative effects of online health information is a concern in Sri Lanka. Further studies and public education regarding this area in Sri Lanka are required.

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Introduction

In this day and age internet based medical information plays an important role in patient behaviour (1). A growing number of patients search for medical information on the internet, including about symptoms of illnesses, diagnoses, investigations, available treatment and prognosis, because of convenience and the easy availability of the results (2). This way of finding information has many advantages including anonymity, lack of administrative barriers and being free of charge most of the time. Therefore, patients are able to educate themselves and clarify their doubts with minimal embarrassment and inconvenience (2,3). However, such practices and curiosities can be harmful when it is excessive and may cause anxiety. It may impact adversely on patients' health and doctor-patient relationship. Cyberchondria is defined as an unfounded escalation of anxiety based on review of search results

and literature online, as well as a pattern of excessive and repetitive internet-symptom-checking behaviour which is related to underlying health anxiety and non-reassurability (2-4).

It is believed that there is an intricate connection between cyberchondria and health anxiety or hypochondriasis as suggested by the very term which is derived from “cyber” and “hypochondriasis,” denoting its connection to hypochondriasis with regard to internet use (4,5). Some argue that cyberchondria is just a 21st century counterpart of hypochondriasis, i.e., pathological levels of illness worry, rather than a novel condition (5). Cyberchondria results in recurrent, excessive time-consuming information seeking behaviour which is distressing to the patient (2,3,5). Irrespective of the initial reason for online medical information search, the resultant anxiety may lead to a cycle of further searches and more anxiety



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which may lead to unwarranted investigations, unnecessary self-prescription and emergency presentations (5). This is further complicated by large volumes of medical information on the web, some erroneous, which may mislead users with health concerns (5). Therefore, even when online medical information searching is not excessive and distressing it can be harmful as demonstrated by Benigeri and Pluye who found that exposing people with no medical training to complex terminology and descriptions of medical conditions may put them at risk of harm from self-diagnosis and self-treatment (6). The gravity of this problem is clearly shown in a large US study which reported that 8 out of 10 American adults have searched for healthcare information online, 75% refrain from checking key quality indicators such as the validity of the source and the creation date of medical information (7).

Cyberchondria has emerged as a phenomenon in recent years with the ease of access to web-based health-related information. While this entity was discussed by the DSM 5 work group, it was not included in the classification (8). However, the revised version of the Diagnostic Criteria for Psychosomatic Research considers this to be a distinct disorder (9).

Internet use in Sri Lanka has increased dramatically over the last few years. The Department of Census and Statistics reported overall computer literacy in 2017 for Sri Lanka to be 27.5% and that 21.3% of the population aged 5 to 69 years used internet facility at least once during the year 2017 (10). People use internet and other digital media to search for medical information in Sri Lanka, however, the nature and the effects of such behaviours have not been studied. Therefore, we set forth to study the prevalence, nature and effects of cyberchondria among two groups of out-patient attendees in Sri Lanka.

Methods

The purpose of this study was to estimate the prevalence of cyberchondria among Sri Lankan patients and to determine the correlates of cyberchondria in this population. This cross sectional descriptive study was

conducted among attendees of out patients' departments of Colombo North Teaching Hospital, Ragama (CNTH) and Nawaloka Hospital, Colombo (NH) from Dec 2015 to Jan 2016. A total of 300 consenting adult patients, 150 patients each from the government hospital (CNTH) and private hospital (NH), were recruited using continuous sampling. We excluded patients with psychotic illness, dementia and learning disability. Information was gathered using a self-administered questionnaire after studying previous similar studies, and the Cyberchondria Severity Scale (1,3,4,11). This Scale has five subsections with questions to evaluate each section. These sections are compulsivity, distress, excessiveness, reassurance, and mistrust. When determining the prevalence of cyberchondria in this study, we considered presence of any those aspects as being indicative of cyberchondria.

Questionnaires were collected after 30 minutes. The questionnaire included questions on demographic data, patients' health information sources, nature of internet related health information seeking behaviour, frequency of checking symptoms online, and emotions associated with these behaviours. Ethical approval was obtained from the Ethics Review Committee of Faculty of Medicine, University of Kelaniya, Ragama and permission was obtained from relevant hospital authorities.

Results

Of 300 participants, 178 (59%) were females and a female preponderance was seen in both groups (Table 1). The average ages of government and private hospital participants were similar (Table 1).

Television was the most popular source of health information followed by newspapers, radio and internet (Table 2). There was no significant difference in usage of health information sources between the two groups except for usage of internet for health information ($p < 0.01$).

Table 1. Demographic details of the participants

	CNTH	NH	Total
Sample size	150	150	300
Female	96 (64%)	82 (54.66%)	178 (59.33%)
Male	54 (36%)	68 (45.33%)	122 (40.66%)
Average age	44 years	41 years	42 years

CNTH – Colombo North Teaching Hospital, Ragama (State Hospital), NH – Nawaloka Private Hospital

Of the aspects of cyberchondria, reassurance seeking was the most common behaviour (45, 15%) followed by mistrust (36, 12%), compulsivity (23, 7.7%), distress (19, 6.3%) and excessiveness (18, 6%). The overall prevalence of cyberchondria was 16.3% when the presence of any of these aspects was considered as being indicative of cyberchondria. Cyberchondria was significantly more common among outpatients of the private hospital ($p < 0.01$). Using the internet to find out about illnesses was the most common illness related

internet behaviour while getting admitted to hospital as an emergency, based on information gathered through internet was the least common behaviour (Table 3). All the illness related internet based behaviours were significantly more common among the private hospital attendees. A majority of patients who made a self-diagnosis using online information had made an incorrect diagnosis. One third of internet users felt anxious after searching their symptoms and 34% sought further medical advice following internet use.

Table 2. Health information sources

Source	CNTH	NH	Total
Television	134 (89.33%)	128 (85.33%)	262 (87.33%)
Radio	67 (44.66%)	45 (30%)	112 (37.33%)
Newspapers/magazines	102 (68%)	96 (64%)	198 (66%)
Internet	19 (12.66%)	53 (35.33%)	72 (24%)

CNTH – Colombo North Teaching Hospital, Ragama (State Hospital), NH – Nawaloka Private Hospital

Table 3. Internet related behaviours

Behaviour	CNTH	NH	Difference between groups
Used internet to find out about illness	13 (8.7%)	38 (25.3%)	$p < 0.01$
Used internet prior to consultation	8 (5.3%)	24 (16%)	$p < 0.05$
Used internet after consultation	9 (6%)	34 (22.7%)	$p < 0.01$
Self-diagnosed based on internet	8 (5.3%)	21 (14%)	$p < 0.05$
Admitted to hospital as emergency after checking internet	1 (0.7%)	9 (6%)	$p < 0.05$
Internet has led to seeing more doctors	5 (3.3%)	18 (12%)	$p < 0.01$
Investigations done based on internet	3 (2%)	32 (21.3%)	$p < 0.01$
Treatment taken based on internet	4 (2.7%)	18 (12%)	$p < 0.01$
Used internet excessively to find health related information	5 (3.3%)	16 (10.7%)	$p < 0.01$
Use of internet to find health related information was distressing	5 (3.3%)	15 (10%)	$p < 0.01$

CNTH – Colombo North Teaching Hospital, Ragama (State Hospital), NH – Nawaloka Private Hospital

Discussion

This is the first study on cyberchondria in Sri Lanka and results suggest cyberchondria to be a significant problem among Sri Lankan patients, particularly among those who are attending private hospitals. This is even when the use of the internet to check health information was relatively lower when compared to other settings. Sreedhar and Shaji reported 65.2% of people attending a general practice in a rural area of Kerala, India used the internet to find health related information and it was the primary source information, in contrast to our population. The marked difference in internet usage for health information between the two groups may be related to the marked difference in computer literacy and internet use according to the occupational category in Sri Lanka (12). Professionals and skilled workers who have a higher internet use are more likely to attend private hospitals due to affordability. Higher use of internet among private hospital attendees may explain why they used the internet more for checking symptoms, self-diagnosis, self-treatment and self-admission. Therefore even if health anxiety is similar in the two groups, the usage of internet by a higher proportion of people attending private hospitals explains why the occurrence of cyberchondria is higher among this group.

White and Horwitz concluded that around 40% of people who used internet experience increased anxiety as a result of interaction with the web (3). In our study one third of internet users felt anxious after searching about their symptoms and 34% sought further medical advice following internet use. This may be due to the fact that the internet is not programmed to reassure its users. Even though it provides facts and figures about various disease conditions, there are not many sources of reassuring information for users, which can increase anxiety among its users (3).

In our study, more than half of those who made a self-diagnosis using web related information, came to an erroneous diagnosis. This maybe due to the information being erroneous and vague or due to poor health literacy and language difficulties. Since the internet can be used as an effective method of delivering health information, the development of such facilities in native languages, with professional mediation, would improve this predicament.

It is interesting to note that more private sector patients used internet prior to and after the consultations, compared to patients who sought treatment from government sector. This reflects the latest trend of Sri Lankan patients who actively participate in consultations to make collaborative decisions, as they are more aware about the nature of their illness. But the majority of government sector patients still adhere to traditional hierarchical and structured therapeutic relationships with treating doctors. Further, people who use internet excessively to check health related information are more likely to

be anxious, and when anxious they may find it difficult to differentiate credible from non-credible online sources of information. Therefore, information from non-credible and credible websites are treated equally, causing confusion due to the conflicting nature of their content (12,13). This is further complicated due to erroneous beliefs about the ranking of search results, that is, a tendency to equate higher credibility rankings to websites that come up on top, in the list of online search results. The overload of websites providing information can also add to this anxiety (3,7,12). In addition, websites can only provide general information about the illness or symptoms, compared to individualized, relevant, specific information that can be given by an attending clinician (4).

Various virtual strategies can be developed to address cyberchondria. This involves the ways in which online health information and results of online health-related searches are presented. For example, a clear, user-friendly and culturally relevant presentation of online health information in native languages such as Sinhala and Tamil by Sri Lankan medical authorities is likely to decrease the misinterpretation and escalation of health anxiety (3,12). If these websites could rank higher when searching for such information in Sri Lanka, and if they could provide credible, accurate, culturally relevant health information, these websites may go a long way in addressing this issue. Regardless of the way this information is presented on the web, cyberchondria cannot be completely addressed due to its close links to pathological health anxiety. But trying to avoid web-based health information is impractical, as the internet will soon become the primary source of health-related information, and avoidance may perpetuate the anxiety (12). Therefore, strategies should be developed to facilitate the use of the internet for health-related purposes without causing heightened health anxiety (12). This could be done by exposing individuals to health-related online material in a gradual, controlled fashion, by changing their erroneous beliefs about online health information and by helping them to control urges to make extensive and unnecessary online health-related searches, through cognitive behavioural therapy techniques.

Limitations

We acknowledge that the study sample is an urban or suburban population from Western Province which is not representative of the general Sri Lankan population. The sample size too may limit the generalizability of the results. This study did not examine the health anxiety or distress levels in the general population, which limited further comparison and hypotheses.

Conclusions

Only a few studies have been done on cyberchondria in this part of the world. Even on the global stage research on cyberchondria is limited. Lack of an operational definition for cyberchondria and poor awareness about this entity may be responsible for this (12). Further studies with a more representative sample and broader research question may shed better light on the issue in the country. As mentioned before, popularization of a health website designed by local authorities, educating the public on credible and relevant health information on the internet, and educating clinicians on cyberchondria and its management may help to address this issue.

Conflicts of interest

None declared

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