

A review on “Is Google a boon or a bane to medical profession?”

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Abstract

Many Physicians are not a big fan of Google or internet sites or search engines that might be causing a negative impact on their patients. Patients who Google search their symptoms come to the Physicians with fear and queries that might not even be related to what they might have but would still doubt the Physicians diagnosis because what they have searched up might be something else. This has also caused a rise in "Cyberchondria", as the patients do deep Google searches on their symptoms. But, studies being conducted on Dr. Google or any internet searches state otherwise. After many studies and analyses, 50% of the studies have concluded that searching up symptoms on the internet prior consultation to with their Physicians might not be such a bad idea.

Keywords: Physician; Patient; Dr. Google; Cyberchondria; Symptoms; Studies

1. Introduction

Google, a search engine created by Larry Page and Sergey Brin in the year 1998, was patented in 2001. Within a matter of a few years, Google is the most widely used search engine throughout the world with almost 90%. The company's website states that its mission is to "Organize the world's information and make it universally accessible and useful"(1). So, what is Dr. Google? When individuals use Google to search for medical information, the term Dr. Google arises. Google gives you information on;

- Symptoms
- Treatments
- Medical conditions
- Prevention and safety
- Concerns

You'll be surprised to know that approximately 70,000 searches related to medical information are searched up on Google every minute. So, when individuals search for their symptoms, Google gives them a full review of what they have? Why do they have? And what are the aftermaths? But Google fails to tell us what exactly they have?

If you search up a common symptom, for example; a skin rash, Google will show you almost all the possibilities of that rash. From the simplest cause being itchy clothes to the most hyper cause being an immune system disorder, commoners not having medical knowledge will tend to assume the worst in most cases. And deeper research on this topic will lead them to believe that they might even be having cancer. This leads to "Cyberchondria", where repeated internet searches on their health might lead to anxiety [1].

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Usually, the regime goes like this, the patient would see something abnormal in them and would go to their Physician for consultation and their Physician would give them a diagnosis and treatment that the patient would accept and cater to them accordingly. But, since the development of Dr. Google, the patients self-diagnose themselves and go to their Physicians with diagnosis and anxiety. Calming their patients and making them understand that what they have is not rashes due to cancer but a simple drug allergic reaction in itself has become extra work for the Physicians [1].

This is not just in the cases of Google but almost every search engine or internet site that might be giving the right information to the individuals, but for the wrong cause or symptom. But not all is wrong; Google searches have also given some Physicians positive feedback. Some Physicians state that, searching up symptoms before consultation gives their patients a sense of understanding of their symptoms and prepares them for the worst possible diagnosis, which helps the Physicians be open and clear to their patients [2].

2. Various Studies on Dr. Google

The main concerns related to web-based searches for medical information are patients' health and the Patient-Physician relationship. A lot of studies and research have been done and published by many renowned Universities and authors that have helped us understand if Google is a boon or a bane?

Starting from the basics, why do Individuals search up their symptoms on Google or any Internet platform?

The University of Warsaw has done an Anonymous study which was published in 2017 with a maximum of 20 respondents (10 men and 10 women) (2). An in-depth interview was conducted with questions concerning health, the internet as a source of health information, and the credibility of that information. They found that the majority of their respondents look up the internet for medical knowledge, most of them being women, due to curiosity, concern and to broaden their knowledge on the aspect. The study concluded that the internet helps individuals with basic knowledge and to understand the consultation provided by their Physician and also, what to ask their Physicians [2].

More than two-thirds of individual's lookup the internet before their consultation, but does it anyhow affect the Patient-Physician encounter?

Another study published in the year 2017 by The University of Leuven, Belgium studies the effect of internet searches on the Patient-Physician relationship. They had done a quantitative, observational, and cross-sectional study with patients between the ages of 18 to 75 years who used the internet followed by a qualitative study of Physicians done in focus groups [3]. Almost half of the respondents among the 986 respondents would book their consultation after internet searches. The older aged would immediately consult their Physician while the younger aged would be worried more. The Physicians have also given positive feedback on internet searches prior to consultations. The study concluded that internet searches prior to the consultation have helped show a mutual understanding between the Patients and Physicians leaving no threats to the Patient-Physician relationship [3].

Since it is the age of growing technology, Google searches or any search engines are not going off business anytime soon. They will be growing and so will the publics' curiosity on different aspects including medical knowledge. By typing a few words, medical queries are more or less answered by the web according to public beliefs, so, are health professionals still valued?

The University of Tasmania, Hobart, Australia Conducted a Quantitative and Qualitative study on whether Health Care professionals are still valued with the growing use of Dr. Google. The categories were divided as, needing navigational support (51.3%) and not needing navigational support (48.8%) among 400 adult Australians [4]. They concluded that health professionals are still valued whether the patients be needing navigational support or not. The opinion of the Physicians is still kept on top.

Dr. David Levine, MD, MPH. of the Division of General Internal Medicine & Primary Care at Brigham had many of his patients come up to him after searching up their symptoms on Google which led them to believe that they have cancer. So, Dr. Levine wondered, 'Is this all patients? How much cyberchondria is the Internet creating?' This led him to conduct a study on this topic [5].

5000 participants participated in the study published in 2021, and they were handed case vignettes that contained a series of symptoms ranging from severe to common and were told to believe that their close ones or loved ones were undergoing the symptoms. They were asked to provide a diagnosis based on the given symptoms with the help of the internet and also mark a triage level. Their individual anxiety levels were also recorded [6]. Dr. Levine and co-author

Ateev Mehrota, MD, MPH, a hospitalist at Harvard Medical School noticed that the individuals were better at the diagnosis and there wasn't any change in their anxiety levels [6]. Although the author believes that a limitation to this study was marked when the participants were asked to believe the symptoms were being experienced by their close ones, we still don't know how they would react if the symptoms were on themselves. Therefore, searching the net might not be such a bad idea; in fact, it might have some good in it. Dr. Levine also plans to increase the scope of study in the upcoming future.

When we say Dr. Google, it does not just refer to Google or any other search engine, but everything revolving around the World Wide Web and technology, which also includes android or apple applications. With the pandemic and lockdown, many people have resolved to use applications for their health assessments or if any symptoms arise.

Edith Cowan University, Australia conducted a study on 36 international mobile and web-based symptom checkers, which give a health assessment to individuals who input their health status and symptoms in. Lead author and ECU Masters student Michella Hill said, "While it may be tempting to use these tools to find out what may be causing your symptoms, most of the time they are unreliable at best and can be dangerous at worst." [6]. The symptom checker presents possible symptoms along with diagnosis and triage advice on how quickly one should visit a Physician.

The study shows that these symptom checkers are correct only 36% of the time and correct 52% of the time in the case of the first three diagnoses, Ms. Hill states that these applications give a false sense of security to the individuals and that they don't see the whole picture, like medical history and visible symptoms like a Family Physician or General Physician would. And people, who lack medical knowledge, might take things lightly when things might be serious. But 60% of the time, these applications have given accurate advice on seeing Physicians immediately or not. Ms. Hill believes that there is a place for medical symptom checkers in medical technology if the public is given assurance of a reliable source of information [7].

3. Discussion

Various studies have been conducted on 'Dr. Google and the internet by different institutes, by different study designs and different aspects, be it Google, Cyberchondria, or Applications, and each conclusion at the end of the study has given us a change in ideology that Google searches or internet searches might not be as bad as they are being assumed.

Looking up symptoms to prior consultation has not shown any negative feedback on the individuals or the Physician in charge. Still, the mention of 'Dr. Google might not be liked by all health professionals, why? Because, most of the studies conducted are more or less still an assumption based on a small set population, the world does not just revolve around them.

As big and wide as the World Wide Web, the scope of studies around Dr. Google is as vast. The mention of Dr. Google is still a controversial topic in the medical community and its ideology will be 50 - 50 in the majority.

4. Conclusion

In conclusion, the patients or individuals who look up their symptoms on the internet are solely responsible for the fact that Google is a boon or a bane. As mentioned before, Google will give the individuals an honest review from the simplest to the severest cause of their symptoms, but it is upto the patients on how they intake the information. Whether they increase their anxiety and Cyberchondria or consult their Physician and take up their advice.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this document.

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