



The risks associated with using the web to look up medical information

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Abstract

When a person searches for information and clinical data on the Internet, he must be careful about the reality of the information he receives. It is very possible that the data obtained may be useful when the site from which it was sourced is of high quality, but, in some circumstances, may be dangerous to its safety. In view of this situation, it is possible that the person seeking information is influenced by known clinical data and various truths, which can yield a web of materials in the network. When searching with the help of search engines in a network of signs, symptoms and signs, the search engines do not have the power to think, and the search results actually combine results that shape the expressions and the pursuit of uses. Search engines don't think in terms of credibility. Furthermore, the results may ignore a good clinical site that provides important data. In addition, the search may also bring up a Wikipedia article, which is an open forum or someone's non-public weblog. This state of affairs can intensify confusion and embarrassment. It is very likely that there is also information that is published with the help of experts from the medical world who are qualified to provide suggestions on the subject and are able to bring reliable information to the public's attention. Therefore, it is appropriate to exercise caution in searching for information on the net and applying it. The risks and benefits must be carefully considered before applying the information obtained by searching the Internet.

Keywords: Drug abuse; Internet medicine; Medical information; Health

1. Introduction

The use of electronic means for healthcare purposes, to progress the proficiency of restorative care, and to bring more prominent exactness and personalization of therapeutic mediations is commonly referred to as online wellbeing [1]. It incorporates utilizing instructive and communication methods to address patients' healthcare concerns or distinguish potential arrangements for particular restorative problems.

Before 1999, the expression "e-health" was initially planned to apply to anything that was genuinely related to computers in pharmaceuticals; however, in advanced times, this term has extended to incorporate a broader range of related topics habitually alluded to as "network medicine" [2]. Usually, this is likely a result of advances in computer innovation and less complex access to the Web [3]. Whereas innovative progressions have made it simpler to obtain wellbeing data on the Internet, they have also raised the chance of finding wrong or dishonest data, almost therapeutic conditions. As a result, the issue of malevolent restorative organization and information accessibility becomes pivotal [4,5]. The majority of clients may misjudge online information since they are new to therapeutic phrasing. On occasion, deception around antibodies contributed to the hurt done by anti-vaccine campaigns, which in turn drove the public to definitely cut back on immunization rates. As a result, illnesses that had already been kept under control since immunizations were found to have essentially expanded on a wide scale. This happened as a result of deluding showcasing and myths that deluded the gathering of people by not reflecting reality. Analysts and researchers have pushed the requirement for an assorted extent of organized clients looking for restorative data, as well as the need for allude to the substance that shows up on the network's locales with caution and feedback [6,7,8]. In order to assist

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clients in ensuring that the wellbeing websites that are as of now accessible are of the highest caliber, a number of initiatives have arisen to assess organizational constancy issues, and recommendations have been made for website developers [9,10]. Of course, a careless and uncritical rummage around for wellbeing data on the Web can cause serious health harm. Among the harms considered are the impacts of abuse and habit, which we are going to allude to afterward within the body of the article.

2. Red flags

Considering that, numerous risks arise when looking for health-related material online, according to research. Online users who are looking for medical information ought to devote close attention to these specific warning signs [11,12]:

2.1. The majority of web users lack medical licensure

With the rise of platforms like TikTok, Instagram, and YouTube, nearly every topic imaginable is now covered by a group of responders. It is not uncommon to stumble upon posts related to health while browsing social media for just an hour a day. Many self-proclaimed "philosophers" take pleasure in sharing diet plans, lists of foods to avoid, exercise regimens, and other health-related practices online. However, blindly following these recommendations can be detrimental to one's well-being.

The power of influence on social media should not be underestimated. People may be drawn to analysts due to their popularity, aesthetic appeal, or organizational style, often seeking advice without hesitation. For example, if a fitness influencer claims that eliminating all fruits and vegetables cured their health problems, some followers facing similar issues might be tempted to try this extreme diet.

Whether it is advice on diet, exercise, or general life management, individuals are inclined to trust the optimism and influence of these social media figures. In another scenario, a bodybuilder may make their lifestyle appear more captivating by proclaiming that they achieved their impressive muscle mass without the use of steroids. However, it is important to be aware that some influencers have financial interests, such as endorsing food supplements that followers can purchase online to align with the recommended exercise and health routines. It has been proven that many individuals in the muscle-building industry frequently rely on the use of steroids, contradicting their claims of being steroid-free.

This realization dawned on the public when numerous followers started taking health advice seriously, believing that achieving significant muscle mass was attainable without external help. It is undeniably challenging to trust online analysts completely. It is essential to recognize that these individuals usually only showcase the best and most alluring aspects of their lives, often hiding any flaws or shortcomings. Therefore, those who choose to follow the health and fitness guidance of these influencers should ensure they possess a solid medical background, beyond just a social media presence.

Research plays a crucial role in evaluating the information shared on social media platforms. Many of these "philosophers" claim that their statements are backed by research, but often they rely on small, poorly executed studies or studies with inconclusive or questionable conclusions. Without robust medical evidence, it is impossible to ascertain the accuracy of their advice. It is worth noting that there are numerous health and fitness myths spread throughout the landscape of social media. Therefore, it is important to approach health-related discussions with caution and rely on evidence-based practices.

In conclusion, social media has a profound influence on the advice and recommendations surrounding health. However, it is essential to approach these platforms with a critical mindset and seek advice from qualified professionals. Precautionary measures and positive discussions around health should be promoted to counterbalance the spread of misinformation and myths.

2.2. The Importance of Validating Health Information Online

It is essential to recognize that not all web pages related to health and wellness are medically endorsed. In the digital age, anyone with internet access can create a website, which often comes with visually appealing templates and designs. This means that even websites offering health advice may lack credibility.

While it is tempting to rely on websites that boast remarkable testimonials and captivating promotional videos, it is crucial to exercise caution. Many dubious health and wellness websites ask for payment in exchange for allegedly

foolproof tips and solutions. Their well-designed interfaces and persuasive language can easily entice unsuspecting individuals seeking a quick fix.

Before making any monetary commitments on a website, it is important to undertake thorough research. Has the company behind the website been verified to provide reliable healthcare assistance? Was the website domain registered recently? These are some questions to consider before taking any action.

To avoid falling into potential scams, individuals should be aware that numerous legitimate and accredited organizations offer valuable health and personal care resources completely free of charge. It is recommended to explore these reliable sources before considering paying for any services or products.

When navigating the vast realm of health websites, it is essential to prioritize information that originates from reputable sources. By conducting due diligence and critically evaluating the content, individuals can make informed decisions regarding their health and well-being.

2.3. One indication can have 100 causes

It is crucial to acknowledge that a single symptom can be associated with numerous possible causes. Taking migraines as an example, a search on the internet can yield a wide range of potential diagnoses, including some that are life-threatening. This highlights the potential risk of relying solely on random online sources for medical advice.

One must be cautious when interpreting information found on the internet. While a headache may indeed be a symptom, it is important not to jump to extreme conclusions, such as assuming it is indicative of a brain tumor. Individuals who tend to worry excessively about their health or have a general tendency to worry may be more inclined to anticipate the worst-case scenario.

It is recommended to consult with a healthcare professional when experiencing any concerns or symptoms. Engaging in a face-to-face discussion with a reputable medical expert who has extensive knowledge and experience can lead to a better understanding of the underlying cause. This approach can help save time, alleviate unnecessary stress, and provide accurate and tailored advice for the specific situation at hand.

While the internet can be a valuable source of information, it is essential to recognize its limitations and the potential for misleading or inaccurate content. Seeking guidance from qualified healthcare professionals is always the best course of action to ensure proper diagnosis and appropriate treatment.

2.4. The Subjectivity of Online Mental Wellbeing Counseling

Online resources for mental health are abundant, providing a range of information and advice. However, it is important to exercise caution as the quality and credibility of these resources can vary greatly. While some sources are well-researched and supported by professionals, others may offer nothing more than personal opinions or anecdotal experiences.

For example, a YouTube video suggesting methods for managing anxiety may include recommendations such as increasing fruit consumption, deleting social media accounts, and using an essential oil diffuser. While these strategies may offer some relief for certain individuals, it is crucial to note that if these suggestions are not backed by experts, they should be approached with skepticism. Engaging in extreme or unproven methods to improve mental wellbeing could potentially worsen one's condition, which is counterproductive and undesirable.

To ensure reliable and evidence-based support, it is advisable to consult with a mental health professional or therapist. They possess the education, expertise, and experience necessary to guide individuals in making informed decisions about their emotional well-being. Additionally, contacting reputable mental health organizations or seeking out dedicated online platforms that offer reliable resources can provide valuable information.

While the internet can be a valuable tool for exploring mental health topics, it is important to prioritize credible sources and seek professional guidance when necessary. Maintaining an open line of communication with trusted mental health professionals will offer the most reliable and effective support for those looking to improve their emotional well-being.

3. How to make the most benefit of online good health advocacy

On the World Wide Web, there are numerous examples of therapeutic fraud. Take into consideration the abundance of purported "wonder cures" that have gained popularity on social media in the aftermath of the COVID-19 pandemic. Right now, the lattice is an extraordinarily valuable but hazardous place, so it's essential to understand how to make use of it safely [13,14].

3.1. Confirm the URLs

In case you're perusing a restorative exhortation on a website you've never heard of, it's always best to run the URL through an interface checker. Essentially, glue it to the content box given, and the connect checker ought to be able to confirm that it is secure.

3.2. Run a foundation check on makers

So, you've come over to an internet maker whose wellbeing exhortation you're curious about. They claimed to be specialists or have a few levels of preparation, so you're feeling like you can believe them.

A person took tips from this influencer and attempted to make a few inquiries about them. Are there any proofs of their restorative certificates from an organization? Have they been included in anything shady in the past? It's impossible for them to post any downsides or ruddy banners, so it's imperative to explore for them yourself.

3.3. Keep wellbeing inquire about simple

In the event that you want to use online medical advice, attempt to prove beyond any doubt that it's not something that has the potential to cause you harm. Supplementing existing information and searching for little tips and tricks usually doesn't harm, but making enormous changes can lead to issues down the line.

For example, cutting out an expansive nourishment bunch may leave you feeling more awful, but taking a couple of tips from a skin care video is far less extreme. Receiving little wellbeing propensities is exceptionally distinctive from changing your whole way of life, so attempt not to make any exceptional choices without consulting a medical professional to begin with.

3.4. Online wellbeing exhortation could be a perilous diversion

While there may be a parcel of accommodating wellbeing assets online, there is also a part of unconfirmed claims and fake data. Making beyond any doubt securing wellbeing by confirming any exhortation you need to get, and considering talking to the doctor before making any huge moves.

4. Classification of health data within the network

The rate of common use of the network in everyday activities increments and increases ceaselessly over a long time. Online health applications have deeply mediated their existence. Amid the widespread COVID-19 outbreak, organized buyers experienced far-reaching changes. Individuals remained longer at home and were taken after the rules of removal to anticipate the spread of the plague. Due to expanded domestic concerns about health-related issues, individuals have progressively looked for wellbeing data online. Buyers have gone to more online wellbeing locales and effortlessly gotten to data; at that point, they shared it through different online media, counting YouTube, Facebook, Twitter, and Google. Portable phone clients detailed that they frequently utilized diverse sorts of applications, such as communication, photo and video, and wellbeing. The expanded right to data driven to the have to be give effortlessly available and valuable wellbeing data, which at that point empowered customers to self-manage more viably. The result was that buyers utilizing the arrangement started to act to get data in various areas related to wellbeing, such as getting wellbeing data with respect to malady indications and learning about treatment alternatives and special exercises within the wellbeing field. Ponders have reported that buyers are more included in self-managed care within the early discovery, avoidance, and treatment of infection. All the previously mentioned changes within the sorts of wellbeing administrations, depending on the wellbeing condition, range from early detection and anticipation of illnesses to self-treatment of clutter and indications. It is vital to keep in mind that wellbeing data is always changing with social patterns, counting the episode of a plague, advancements within the life sciences, and data innovation, which require an alteration of substance or organization to meet the necessities of the beneficiaries. In any case, the current state of changes in the utilization of health data and its effects on way of life are not interestingly measured. Subsequently, a supplier of national wellbeing data ought to be able to distinguish the current needs of individuals as well as the patterns

and be able to reflect them instantly so that the right arrangement of health data can contribute to the advancement of national wellbeing.

An assortment of subjective ponders have been inspected to encourage action and inspiration in looking for wellbeing data, appraisals of distinctive age groups, sexual orientations, and maladies through social media or portable phones. Other ponders subjectively characterized wellbeing data, looked for behaviors, and conducted concept examinations. These ponders can degree components, such as buyer characteristics and their fulfillment with the utilization of the domestic page, as well as offer quantitative devices for giving wellbeing data. In any case, this is considered to have restrictions in recognizing the interesting fulfillment or wants to be related associated with shoppers and changing wellbeing data looking for encounters.

Considerations have centered on the questions of why, when, and where shoppers get wellbeing data and how the data is utilized. Analysts have built a framework that makes a difference in understanding the marvel of looking for wellbeing data on the Web. Here are the standards for understanding the strategy [12,13,14]:

4.1. Classifications

4.1.1. Reaction when issues emerge

A few individuals hunt for information when issues arise. They, by and large, don't care approximately about wellbeing data and don't look when there's no motivating force to look. They search for wellbeing data when they are wiped out or require help. People in this category visit organizing destinations to induce data at whatever point they have an issue and a one-time interest, which permits them to memorize health communication aptitudes that offer assistance in communicating precisely with restorative staff. Subsequently, they have access to the sub-fields of infection location, symptom identification, self-diagnosis of the name of the infection, and rummaging around for a restorative institution amid dynamic wellbeing care.

4.1.2. Avoidance and administration

Individuals within the avoidance gather are seeking out data that's simple to take after, such as straightforward work that can be done at home or within the office. Their look behavior is more related to a solid way of life, such as direct physical movement, than disease. In addition, it alludes to the sort of administration implemented in genuine life by utilizing recordings or web search results when the upkeep of ceaseless administration is vital due to the inveterate nature of the condition instead of finishing treatment in a brief period of time.

4.1.3. Examination of wellbeing data

Individuals investigating wellbeing data tend to look the net, attempting to discover wellbeing-related articles and recordings to induce quick data. They tend to study a piece in the event that it appears curiously or indeed has the smallest significance to them. Individuals in this category are indeed looked at on the off chance that they have no indications. Most individuals from this group have a place in organizations for wellbeing advancement and infection prevention.

4.1.4. Teachers

Individuals within the teacher category look for wellbeing data to illuminate wellbeing issues for other individuals (e.g., a life partner, child, or parent) since they ensure family wellbeing or since their occupation is wellbeing instruction. This gathering contains a parcel of information and data. Be that as it may, this gathering is steadily getting assistance to make it simpler to apply the data. This group has a place in and partakes in counseling within the field of wellbeing-building ventures.

4.2. Changes

4.2.1. Beyond the crown plague, there's an expanded interest in wellbeing

Earlier to the COVID-19 widespread, interrupted individuals did not habitually conduct health-related looks on the net, but when they or their relatives were debilitated. Be that as it may, amid the widespread spread of COVID-19, individuals conducted health-related looks more habitually. Particularly when the time went through the exterior, the domestic diminished and the time at the domestic expanded. Individuals have found that numerous health-related exercises, such as counting calories and doing a domestic workout, can be done while remaining at home. In expansion, they looked for effortlessly clarified data on wellbeing subjects, counting nourishment and working out to boost resistance. With the

developing interest in irresistible infections, individuals got fascinated by nitty-gritty data, such as the component of irresistible illnesses, forecasts, malady frequency, and epidemiological investigations, beyond basic wellbeing data.

4.2.2. Inclination for YouTube recordings over online articles

In the past 5–6 years, people have regularly utilized websites through computers or mobile gadgets by logging into websites and utilizing applications, such as Facebook and Instagram. In any case, over the past 1-2 years, buyers have fundamentally looked for data through brief recordings, such as those found on YouTube. Rather than perusing health-related articles, they check, for example, the news related to the COVID-19 scourge through recordings and look at the changing territorial and universal frequency rates of the scourge.

4.2.3. Enactment of restorative data substance

Notices of approximately calamities issued by part governments are given through "weave" alarms of words and text that were not enacted, and in times of trouble they are enacted. Since in many cases the data upgrade came through verbal messages on a day-by-day basis, when the alerts sounded, the people said they were trying to find articles related to the news. Whereas searching for wellbeing data, for example, people amid the Corona plague utilized to check the number of modern affirmed cases within the day that passed within the area where they or their family members live. They, too, were intrigued by the social effects caused by the plague, vaccines, and indeed the auxiliary impacts of the illness itself and immunizations.

4.3. Challenges

4.3.1. The relationship with wellbeing protections companies

To be secured by reasonable wellbeing protections, one has to have a medical certificate to demonstrate it. However, a few pieces of information are kept within the databases as a meeting is required at the clinic. Agreeing to the principle of privacy, indeed, on the off chance that a patient agrees to connect protections companies to wellbeing data found within the database, this is in numerous cases usually disallowed due to laws. Moreover, indeed, in the event that the patient needs to share the restorative information stored within the restorative database with the protections company, the preparation is long and complicated, and as a result, numerous individuals have trouble getting wellbeing protections at sensible costs.

4.3.2. Synchronization of individual information from wellbeing checks and different gadgets

Wellbeing data isn't made in one place but in totally different ways in a few clinics. Individuals trust that restorative tests and restorative advances—policies that meet these assets—are based on persistent assent. Offices that center on scheduled examinations or medicines speak to distinctive parts of the health care framework. Therefore, the information from distinctive assets is scattered. Nowadays, patients utilize wearable gadgets that create different health-related information, such as heart rate, steps, and sleep-related information. This data serves as great health-related information, but it would be helpful on the off chance that the data can be associated with wellbeing administration.

4.3.3. Solid therapeutic data

The unwavering quality of wellbeing data has been persistently raised. Together with the numerous suppositions and the different sums of data given on the net, the public feels that the articles have a constrained capacity to help. The clients of the organization are often confused by the information that contrasts with who defined it for them to begin with (for example, a doctor, journalist, or coach) or that comes from unknown sources. When providing information related to health in the chain, consumers indicated that efforts are needed to increase the reliability of the information, such as the introduction of a certification system that requires an accurate indication of the source of the information.

The implementation of the aspects related to warnings during the search of websites in the network has the power to keep the person searching for information in the health field. Of course, one cannot rule out the positive aspects of how the network can help the searcher. Therefore, the health information should be examined with the utmost caution. Paying attention to positive and negative information received through the network has the power to help prevent damage [15,16].

5. Negative and positive effects of online health information on the patient

5.1. Negative effects

The constant expansion of the web makes regulating websites a difficult task. For example, the researchers analyzed Wikipedia's online articles for 10 conditions in the United States. They found that 90% of the articles made claims that contradicted the latest medical research. Wikipedia is the fifth most popular and widely used website in the world, although it is inaccurate. In fact, research has confirmed the dangers of seeking health information from the Internet. The fact that health information websites are very popular with the public can be mistakenly used as a measure of the reliability and accuracy of the information, which can lead to misunderstandings and confusion. As a result, patient safety may be at risk. Searching for health information on the Internet enhances hypochondriacal symptoms, which exacerbate anxiety caused by excessive or repeated searching for health information on the Internet. The Cyberchondria Severity Scale (CSS), an assessment tool developed to measure the severity of patients' cyberchondria, was constructed. The scale defines cyberchondria with five main characteristics: "compulsion, anxiety, exaggeration, reassurance seeking, and distrust of medical professionals." A 2009 study looked at the effects of seeking health information online and found that 40% of participants said their behavior would change based on health information they found online. Of that, 40% and 61% said their search for potentially serious situations had increased. It may have been related to "compulsion, anxiety, exaggerating nervousness, unease, and apprehension. In addition, 62% of the 40% stated that communication with the doctor increased, which may be related to the characteristic of looking for peace of mind. However, the study did not find that the respondents lost their medical profession. Despite this and the fact that the survey participants were not clinically diagnosed with cyberchondria, we can clearly see how the symptoms they report can be related to the disease. Cyberchondrial anxiety can manifest itself as physical symptoms such as headaches, palpitations, and difficulty breathing. In addition, studies have shown that stress-related anxiety causes the release of excess cortisol, which can weaken the immune system and cause sleep disturbances. These physical symptoms can aggravate the patient's anxiety if they do not realize that they are caused by misinformation. A study based on tens of millions of Google searches and reviews by many adults shows that the prevalence of self-diagnosis is relatively high, so the care of doctors is very important. An inaccurate diagnosis can lead to incorrect self-care or medication, which can endanger the patient and their safety. Potential risks include wrong self-diagnosis, delay in seeking medical help, when necessary, rare but serious side effects, dangerous drug interactions, wrong route of administration, wrong dose, wrong choice of treatment, masking of serious illness, collecting medicines for suicide and the risk of drug addiction and abuse. In the case of drugs independently selected by the chain, it became clear that the purchase of drugs can also endanger the safety of the patient because drugs obtained from unregistered websites can be expired, diluted, or fake. Patients are strongly advised to seek advice from a doctor about online medicines, as it is important to know the dosage, possible side effects, and side effects of other medicines [16,17,18].

5.2. Positive impacts

In spite of the previously mentioned, organizing destinations offers the plausibility and capacity to supply patients with an extension of information and an understanding of how a certain way of life can lead to wellbeing issues. In expansion, they can offer assistance to individuals on how to treat or oversee therapeutic conditions and make strides toward their security. There are cases where a persistent worker has profited from utilizing work. For example, one article clarified how a specialist analyzed an understanding of an uncommon sort of cancer. In another case, after an understanding asked for a duplicate of her restorative records, the understanding was able to research the circumstances herself within the organization and get a momentary conclusion. Typically, after she began chemotherapy, it was found that she did not have cancer to begin with. Chemotherapy can produce many negative side impacts, such as iron deficiency, a debilitated resistant framework, and short-term memory issues. In this manner, this case may be a clear example of how looking for wellbeing data online can offer assistance in keeping patients secure as well as improving their understanding of certain maladies.

As appeared by the results of studies in which patients detailed that they utilized the organization to rummage around for data around restorative issues or health-related concerns, numerous people expressed that the data they found online changed the way they think about their wellbeing. The foremost common change was an expanded interest in their wellbeing. These studies reflect the thought that the Web can empower patients to alter their wellbeing propensities, as over half of Web clients concurred that online data changed the way they saw their world. In any case, it is critical to keep in mind that the test estimate for this review ponder must be expansive; hence, any conclusions drawn from moderately small tests are constrained in quality. In larger-scale consideration, patients detailed learning something modern when they utilized the Web to secure wellbeing data. This information, once again, expresses the positive impacts of looking for wellbeing data online. Development in information permits patients to come to interviews more arranged, with thoughts, concerns, and desires, and hence, this permits them to be more locked in and

make a more grounded collaborative relationship with their specialist. Perusing blogs or taking an interest in online chat rooms can give back, exhortation, and consolation to patients, as a few may discover experience-based data more consoling than clinically-based data. For example, discouraged individuals have attempted or considered a trend to eat less. On the one hand, the prevailing fashion of slimming down may give trust and consolation to individuals looking to lose weight. In any case, a major concern is that craze diets and other sorts of online wellbeing counseling may need solid clinical evidence. As a result, the negative impacts of online wellbeing data can emerge [16,17,18,19].

6. Impacts on doctor-patient relationships

What is seen as the perfect doctor-patient relationship has essentially advanced over the past 20 years. In the past, the doctor was considered to be in a position of specialist and dominance, whereas the understanding was anticipated to unobtrusively comply. Nowadays, a more agreeable relationship is empowered. This connection framework can be analyzed as a parent-child relationship: the parent is definitive and controlling, the grown-up is adjusted, and the child is balanced. Thus, it is perfect for specialists who are persistent about having an adult-adult relationship. In any case, this adjustment may be exasperated when an understanding gets wellbeing data on the Web. The patient may decide that his self-diagnosis is correct. Therefore, they tend to require more on the part of the parent and may require superfluous tests or treatment. This alteration of specialists can cause pressure and struggle in the event that the specialist tries to reestablish the past. A specialist attempting to debilitate an understanding of self-medicating in a perilous way can also cause struggle. Clashing conclusions can squander important time during meetings. According to the British Therapeutic Association, GP appointments ought to last only fifteen minutes. A quiet person can, moreover, waste this valuable time by asking pointless questions about what he finds on the Web. In case the doctor feels the need to surge, the patient can feel disregarded, which can influence the relationship. On the other hand, the doctor-patient relationship may benefit from online wellbeing data. As the patient's information develops, a more agreeable relationship can be created, which communicates the perfect adjustment between adults. For example, the writing recommends that this "digitalization" of doctors will end up being a progressively common phenomenon as the Web and others worldwide get to do it. It is essential that both doctors and patients recognize the advantageous side of this. Searching for wellbeing data on the Web empowers the discharge of patients from their generally tame part, in this way empowering a perfect, agreeable, and break-even relationship between doctor and patient [17,18].

7. Drug abuse and the internet

Naturally, the drug trade, including narcotics, is also reflected in the network. Therefore, the search for drugs as a cure for patients in the network carries with it the dangers of experimenting with and abusing drugs for the sake of healing, but also experimenting with and abusing addictive substances. In order to try and understand this problematic and dangerous aspect and to get an estimate of the scope of the phenomenon, we can use the trend analysis of the Google search engine. Here we have at our disposal a research tool known as Google trends. In addition, it is possible to use examples from everyday life that provide a deep understanding of the measures taken to obtain the addictive substances. Some health information seekers on the Internet may misuse medicines due to irresponsible recommendations. Some of them will become addicted to narcotic drugs, which can also be obtained on websites that sell narcotic drugs under the guise of a drug that has the power to bring healing, even without a doctor's prescription or a proven medical prescription.

The following is an example of health damage due to drug addiction and abuse. A very tough incident of a very brutal robbery of an elderly couple, the police arrested a known criminal from the area as a suspect in the act. It is understood that during the investigation he did not cooperate; therefore, many and varied interrogation exercises were carried out, including dubbing in the detention cell. Because the investigation of the suspect was prolonged, the police prolonged his arrest several times. It was learned that the arrested criminal was also a drug user and obtained his drugs by several ways including via the web.

One day, he was brought into the interrogation room, and the investigators tried to get the suspect to talk. The criminal was shut up, and during the investigation, the investigators noticed that the suspect was suffering from withdrawal symptoms due to the lack of the drug. The police doctor was invited to the interrogation room. When the doctor arrived, he also got the impression that the suspect was suffering from withdrawal symptoms from opiates. The doctor placed a box of methadone, a well-known opiate drug, on the table, and the detainee tried to reach out and take a pill. The investigator, without saying anything, took the box of pills and put it in his pocket. The suspect started showing more and more withdrawal symptoms. After a few minutes, the suspect opened his mouth and told what happened at the event in a personal confession. His testimony lasted about 45 minutes, and after he signed the testimony, the investigator took the box of methadone out of his pocket and gave the suspect a pill with a glass of water, and indeed, it

calmed him down within minutes. The perpetrator was, of course, convicted based on his testimony and sentenced to several years in prison [19,20].

7.1. Google trends

Google Trends is a website by Google that analyzes the popularity of top search queries in Google Search over different locales and dialects. The site employs charts to compare the search volume of diverse queries over time.

Prove, as given by Jeremy Ginsberg et al. that Google Trends information can be utilized to track influenza-like sickness in a population [21]. Since the relative recurrence of certain queries is profoundly connected with the rate of doctor visits in which a persistent patient presents with influenza-like symptoms, an appraised estimate of week-after-week flu movement can be detailed. A more advanced demonstration for deducing flu rates from Google Trends, competent of overcoming the botches of its forerunners, has been proposed by Lampos et al. [22].

7.2. Results of Google trends of drug abuse and internet medicines queries

Interest over time as determined by Google Trends: "Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term."

When comparing the trend curves in the network of "drug abuse" to the trend curve of "internet medicine", it turns out that the trends cover has an overlap. Fortification for this conclusion is gotten when looking at the trend averages of the two variables during the period in which they were tested. There is no correlation between the two curve trends (correlation coefficient, -0.07).

As appeared within the column drawing of the averages of both parameters (mean $\pm$ SEM, drug abuse 10.57 $\pm$ 2.09, internet medicine 10.236 $\pm$ 2.19). Skewness of drug abuse trend 1.653, skewness shape asymmetrical, right/positive (pval=0) , kurtosis of drug abuse trend shape leptokurtic, long heavy tails (pval=0.001) , since p-value< α , we reject the H_0 . It is assumed that the data is not normally distributed. The query of drug abuse trend data is significantly departing from normality, $W(89) = .59$, $p < .001$.

Skewness of internet medicine trend 2.015, skewness shape asymmetrical, right/positive (pval=0) , kurtosis of internet medicine trend shape leptokurtic, long heavy tails (pval=0) , since p-value< α , we reject the H_0 . It is assumed that the data is not normally distributed. The query of internet medicine trend data is significantly departing from normality, $W(89) = .56$, $p < .001$.

Assuming the data for each query trend is a random sample from a population, and the distribution of the population is unknown. To determine the model of the distribution that fits the population we sampled from, we analysed the quantiles of the data and the model.

Based on the above analysis we concluded that t-test or any other similar statistic test is not suitable for the current data. Moreover, it turns out that there's nearly no difference between the two query trends that do not display a normal distributions.

It is important to mention that this tool can also be used to analyze trends in various diseases, including outbreaks of epidemics, but it is also possible to examine trends in experimentation, misuse and dependence on addictive substances among different populations, including young people and even school students [20,21,22,23,24].

8. Conclusions

It needs to be remembered that looking for medical information on the Internet has the strength to benefit the searcher's health, however additionally contains health hazards. Therefore, it's far suitable to deal with the quest consequences for the maximum warning. In view of the truth that a massive part of the populace searching for medical information has few scientific equipment able to assisting to differentiate among right medical information that has been checked via way of means of specialists and reputedly medical information posted via way of means of charlatans. Present health care experts have an obligation to well known that sufferers' logical decision-making can be modified primarily based totally on extra online medical information. When an affected person is searching out clinical medical information on the Internet, he needs to pay near interest to the reality that the medical information he gets may be beneficial with

inside the quality case but, in lots of situations, can be dangerous to his health. In view of this scenario with inside the network, the affected person in search of clinical medical information need to recognize numerous truths, such as the reality that all and sundry can submit content material online. When searching Google for signs and symptoms, search engines like google and yahoo do their quality to pair outcomes that in shape the hunt phrases used. But search engines like google and yahoo do now no longer think in credence. The result outcomes might also additionally flip up a good clinical web page that gives precious information. But it may additionally flip up a Wikipedia article, an open forum, or someone's non-public blog. This reasserts can be completely misguided and, much more likely than now no longer, aren't being posted with the aid of using a clinical expert with the credentials or revel in to provide recommendation at the topic. Further, Wikipedia isn't a reputable supply. Wikipedia is the 6th maximum famous internet site for clinical information and that's a terrifying reality. Anyone can write and edit Wikipedia articles with wild abandon in the event that they so choose. And despite the fact that Wikipedia has regulations and hints in the area to enhance the publication, it does now no longer require participants to stick to them. It doesn't even require participants to offer their actual call, this means that there's 0 duty for what receives changed or posted. All varieties of incorrect information are posted on Wikipedia, and that's specifically alarming from a clinical standpoint. In the latest study, 9 out of 10 articles regarding the pinnacle maximum high-priced clinical situations with inside the United States (coronary artery disease, lung cancer, depression, osteoarthritis, hypertension, diabetes, and lower back pain) had been now no longer up to date with the modern research. In addition, Googling signs reason fitness tension. Google pretty much any symptom, and there's sure to be outcomes that propose surgical treatment or join the symptom with a shape of cancer. These intense conclusions can reason critical tension, mainly for individuals who are already terrified of health problems. This tension occurs so regularly nowadays that there's a call for it—cyberchondria, that hundreds of thousands may be afflicted by it. Cyberchondriacs flip to the Web for consolation approximately their health troubles as opposed to a fitness expert. They can grow to be obsessed, and the quantity of time they spend checking the Web for health can intervene with each day lives. Because Internet articles cowl the whole thing from the least to the maximum extreme instances of health troubles, it turns into smooth for those humans to magnify their signs and persuade themselves that their state of affairs is a lot worse than it really is. Moreover, Googling signs charges sufferers' extra money. As defined above, Googling signs can flip sufferers into a brand-new form of hypochondriac. Hypochondriacs aren't faking their tension, and that they aren't in search of interest. They are without a doubt apprehensive or distressed approximately their clinical condition, even though their fears are irrational. This regularly results in common and from time-to-time needless journeys to the ER, pressing care, or physician's workplace and finally ends up costing sufferers and the healthcare enterprise billions of greenbacks every 12 months in needless clinical assessments and treatments. Peace of thoughts is priceless, and the quality peace of thoughts you may acquire is through professionally administered clinical interest. A person who got health concerns, it is recommended to speak to the doctor not to depend upon the Internet. In addition, locating exaggerated health information approximately to a condition, it is able to reason needless tension. Locating health information that downplays a condition, would possibly fail to provide it the eye it requires, which can bring about an extra critical state of affairs. Health care experts need to help sufferers' systematic decision-making via way of means of starting up as a great deal speak with sufferers as possible. Offering credible and convincing medical information to sufferers, and guiding sufferers wherein to search for accurate, comprehensive, and comprehensible online medical information. By doing so, sufferers will keep away from turning into crushed with extraneous and frequently conflicting medical information. Educational interventions to sell medical information seekers' capacity to identify, locate, obtain, read, understand, evaluate, and efficaciously use online medical information are exceedingly encouraged.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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